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DISORDERS AND LESIONS OF THE MALE URETHRA

OFFICE PROCEDURES

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Disorders of the male urethra are the cause of many disturbing symptoms. They are due chiefly to inflammatory conditions, obstructions and hyperemia or hyperesthesia. These disorders manifest themselves chiefly as abnormal discharges, urinary irritation and sexual disturbances. Inflammation and obstructions are intimately related. By this is meant localized inflammatory processes tending to produce fibrosis and obstructions in the areas so affected. It is equally true that obstructed areas in the urethra, whether congenital or acquired, tend to harbor infection. Each tends to perpetuate the other; inflammation produces fibrosis and obstructions, which in turn hinder the cure of infected areas. Considerable judgment is required at times, especially in chronic recurrent inflammation, to determine the correct plan of treatment. Formerly it was deemed inadvisable to dilate inflamed areas in the urethra even though an obstruction was known to be present and keeping up the inflammation; since the advent of sulfonamide compounds, however, with their remarkable germicidal qualities, this view has undergone a decided change. The danger of bringing about the complications formerly feared by dilating obstructed areas no longer obtains, at least in those cases in which the infection is well controlled by one of the sulfonamide drugs. In consequence now the vicious circle often may be broken by dilating the obstructions which tend to keep up the infection. It naturally goes without saying that the instrumental dilation should be done with care and at first should be limited to the anterior urethra; furthermore, it should be carried out during the time in which the sulfonamide drug is being administered.

These rather radical views would not be advised had we not been impressed repeatedly with the manner in which urethral infections disappear when treated simultaneously with the dilation of obstructions and the administration of sulfonamide drugs.

This paper, in a symposium on "Office Treatments in Urology," is published under the auspices of the Section on Urology.

GONORRHEA

It is recognized that many urologists do not treat venereal diseases. The treatment of gonorrhea, however, is an office procedure which merits careful consideration of those who do treat it.

In the treatment of gonorrhea we recognize three groups: (1) those in whom the discharge has not been present for more than forty-eight hours, (2) those in whom the discharge has been present for more than forty-eight hours, (3) those in whom the discharge is chronic or recurrent and perhaps with complications.

Acute Gonorrhea, When the Discharge Has Been Present for Less Than Forty-Eight Hours.—If the infection is of recent origin with the usual incubation period, and if the discharge has not been present for more than two days, a high percentage of prompt cures may be obtained by the combined use of sulfathiazole orally and a 5 per cent solution of mild protein silver sealed in the anterior urethra once a day for four days. The sulfathiazole should be administered in doses of 1.5 Gm. each, four times a day for the first two days, then 1 Gm. four times daily for the next two days. The 5 per cent solution of mild protein silver should be freshly prepared each day. The patient urinates, the meatus is washed, and 1.5 cc. of the solution is injected into the urethra and retained with clamps. Collodion is applied with a camel's hair brush to the meatus and surrounding glans penis. The most satisfactory clamps are those used in laboratories for holding test tubes. When the collodion has dried, the clamps are removed. A condom is then placed over the penis and the patient is instructed to postpone urinating for four hours if possible. Straining efforts which might cause the solution to escape should be avoided. U. S. P. collodion (nonflexible) should be used. The treatment is administered once a day for four days. During this time the sulfathiazole is continued as described.

All treatment is discontinued after the fourth day. Careful observation is then begun. If there is no return of discharge within a week the patient is permitted to make a test with alcoholic beverages if he so desires. If, for another week, no discharge appears, a urethral sound is introduced as a further provocative test. If this procedure does not cause a return of discharge or cloudiness of the first glass of urine, treatment is still omitted but the patient is observed from time to time for four weeks longer, during which additional sounds are introduced into the urethra. If at the end of this time there is no discharge and the urine is clear, the patient is told that he is well. So far we have not seen a recurrence when these tests were negative.

Let us again emphasize the fact that this plan of treatment is not employed for patients whose discharge has

been present for more than forty-eight hours or when the incubation period was not within the normal limits.

The prospect for a prompt cure is less favorable when coitus has occurred during the incubation period or when urethral strictures are present.

When the Discharge Has Been Present for More Than Forty-Eight Hours.—Under these circumstances the chances are about 80 to 90 per cent that a cure may be effected within two weeks or less by sulfathiazole. This, of course, implies that the patient can tolerate the sulfonamide drug in doses of 1 Gm. three or four times a day, preferably after meals and after a glass of milk at bedtime. For those who cannot take the recommended dose of sulfathiazole the amount may be reduced and yet may be effective. Here supplementary measures such as the usual urethral irrigations and injections should be employed. In spite of such routine care there will be a percentage of failures which require additional measures. What these shall be naturally depends on the extent of the failure and its most likely cause or causes. If it seems that the gonococcus appears to be of the resistant type, a change to sulfadiazine or to sulfapyridine may at times be of value. If these are not effective in controlling the infection, mild routine measures should be patiently used until it seems safe to ascertain whether or not there is an obstruction or a pocketed area in the anterior urethra acting as a retarding factor. Of course, such instrumentation should never be undertaken when there is a complication such as cowperitis, prostatitis, seminal vesiculitis or epididymitis.

Chronic or Recurrent Gonorrhea.—This requires unhurried efforts to ascertain the factors which retard the elimination of the infection.

Probably the commonest causes of failure to obtain reasonable satisfactory cures with sulfathiazole are stopping the drug too soon and pocketed infection in the glands of Littré or at urethral strictures.

Prognosis.—The time required to cure a patient with acute gonorrhea varies with (*a*) the promptness with which treatment is started, (*b*) the type of treatment employed and (*c*) the response to treatment.

The quickest cures are obtained with the combined use of sulfathiazole and mild protein silver sealed in the anterior urethra. This plan should be employed only when the patient reports for treatment within two days after the urethral discharge appears. After the infection has become well established, uncertainties as to the time for eradication are increased. They concern the tolerance of sulfathiazole, urethral strictures, the development of complications, the existence of pocketed areas in which the micro-organisms may have become entrenched and to drug resisting qualities developed by the gonococci.

The danger of infection being carried to the eyes by accidental transference is slight, but patients should be warned of the possibility and urged to exercise care in preventing such infection. Complications such as epididymitis and prostatitis are much less frequently seen in patients who are treated with sulfonamide drugs than in those who do not or cannot take them. Dosage at four hour intervals is recommended, as the blood concentration is kept more constant thereby.

Ambulatory patients who are taking sulfonamide drugs should be warned of the possibility of nausea and dizziness. Particularly should this be called to the attention of airplane pilots, railway engineers, bus drivers and persons similarly employed. Drug fever is seen occasionally; it promptly disappears with the omission of the drug and forcing of fluids. Skin rashes are not uncommon and may take many forms. Acute agranulocytosis and hemolytic anemia are rare, when suspected blood counts and hemoglobin determinations should be made promptly and the drug discontinued if a definite decrease of red or white cells is noted.

NONSPECIFIC URETHRITIS

In the great majority of cases nonspecific urethritis is due to an obstruction at the meatus or in the urethra or to infection in pocketed areas such as in the glands of Littré or Cowper's gland, the prostate or the seminal vesicle. A small meatus or a stricture of the urethra tends to cause extension of infection into pocketed areas or "dugouts," from which its eradication requires a higher degree of immunity or a greater germicidal effect from medical measures than is required if the infection is limited to smooth mucosa.

For many years our most satisfactory treatment of nonspecific urethritis has been by meatotomy, when the meatus is small, and by the dilation of strictures when they are present. No longer are astringent injections or irrigations employed. More prompt and more lasting benefit is obtained by establishing a normal caliber of the urethra and less frequently by electrical coagulation of infected glands of Littré. Of course, attention is given to the prostate and seminal vesicles when needed. Endoscopic treatments are not used except when the other measures have failed; they usually are needed only when the glands of Littré harbor gonococci. In addition to these measures sulfonamide drugs, preferably sulfathiazole, are simultaneously employed.

Poor kidney function and obstructive lesions of the urinary tract are contraindications to the administration of large doses of sulfonamide drugs. If such lesions are suspected, or if large dosage is contemplated, renal functional tests should precede the administration of sulfathiazole.

MEATOTOMY

Adequate diagnosis and treatment of urethral disorders is not feasible through a small urethral meatus. By a small meatus is meant one which will not admit a 26 F. bulb. In such cases meatotomy is necessary for diagnosis as well as for treatment of the usual urethral disorders, such as chronic recurrent urethritis, deep urethral irritation and strictures.

Enlargement of the urethral meatus is accomplished with little discomfort by incision after the injection of 1 per cent solution of procaine hydrochloride into the tissue between the meatus and the frenum. After the meatus is incised to 30 F., as indicated by a bulbous bougie, the urethra should be tested for strictures by the introduction of bulbs. A sound one size smaller than the largest bulbous bougie which would pass through the anterior urethra is then introduced through the deep urethra. The sound is removed, and to the incised area at the meatus Monsell's solution is applied with a cotton swab. This stops bleeding and lessens the discomfort when the urine is voided. The patient is instructed to introduce a glass rod, such as is attached to the stopper of germicidal solutions, about ½ or ¾ inch into the urethra and press downward to prevent the cut surfaces from growing together. This

procedure is carried out by the patient every night for about ten days until the mucosa has covered the incised surface. Meatotomy thus carried out affords excellent results.

URETHRAL STRICTURES

Strictures of the urethra, bottle necks in this urinary passageway, are of common occurrence. They may be congenital, acquired or both. The scope of this paper does not permit a discussion of the various types of strictures or of the details of the inflammatory changes and chemical or traumatic injuries which produce the acquired fibrotic narrowing of the urethra. It seems more desirable to discuss the ill defined symptoms and management of strictures amenable to office treatment.

The recognition of a narrow point in the urethra is so easy and so important that even the most casual examination, unless the urethra is acutely or subacutely inflamed, should include the introduction of bulbous bougies into the anterior urethra. In no other manner can it be known that the urethra is normal in caliber. Sounds are not of value in the diagnosis of urethral strictures, and the symptoms may be wholly misleading. Obstructions of fairly large caliber may be associated with and causing a chronic "gleety" discharge which will not clear up until after the stricture has been dilated. The same may be said of low backache and of postpubic or pelvic discomfort. Itching along the urethra or in the perineum results more frequently from urethral strictures than from all the other causes. Frequency in urination, "nervousness" and sexual disturbances are not uncommon symptoms of urethral strictures. The rather surprising thing about all these vague symptoms of urethral strictures is that they do not vary in proportion to the narrowness of the stricture.

While strictures of medium and large caliber may be attended by a chronic or recurrent urethral discharge, strictures of small caliber may not cause any abnormal secretion. Retention of urine, partial or complete, after exposure to cold, sexual excess, alcoholic excess or voluntary retention beyond the usual time may result from strictures of fairly large caliber.

Periurethral abscess, fistula and urinary extravasation may arise from neglect of strictures or from false passages produced by instrumentation.

Following transurethral resections of the prostate, strictures of the urethra which previously had given little trouble are quite likely to require dilation. This should be started about ten days after the resection.

The treatment of strictures should always begin with a meatotomy when the meatus will not admit a 26 F. bulb.

Gradual Dilation of Urethral Strictures.—Treatment by gradual dilation is the method of choice in the management of urethral strictures. The dilation should be so gradual that at no treatment is the trauma sufficient to require repair by scar tissue. Dilation with sounds is safer than with the Kollmann dilator. Gentleness and care in the passage of urethral sounds are of prime importance. The hurried passage of a sound increases both pain and the likelihood of making false passages. For patients who are unusually nervous or whose urethras are very sensitive, anesthesin jelly injected into the urethra and gently pressed into its deeper part reduces decidedly the pain caused by urethral instrumentation. After the injection of the anesthesin jelly a clamp is placed near the meatus and the jelly allowed to remain in the urethra for about five minutes. K-Y jelly is then injected into the urethra and the sound slowly passed. If the stricture will not admit a 22 F. sound it is preferable to use a Phillips tapering bougie. If this cannot be passed, an effort should be made to introduce a filiform, woven or whalebone. What plan to follow in case success attends this procedure depends on the difficulty experienced and on whether or not the urethra is sufficiently dilated to permit voiding urine. If one is in doubt, the filiform may be tied in the urethra, where it may be allowed to remain for several days. Patients nearly always void satisfactorily around such retained filiforms. Subsequent dilations are likely to be easy if no false passages are made. Whether hospitalization of the patient and an operative procedure should be carried out must be determined by a consideration of the patient's general condition and by local complications such as fistulous tracts or abscesses.

DISORDERS OF THE DEEP URETHRA

Acute inflammation of the deep urethra is readily recognized by the painful symptoms referable to this area, frequency in voiding and pus in the last part of the urine. In such inflammation the prostate gland inevitably also is involved. Sulfonamide drugs now control infection of this part of the urethra most of the time so well that little more than these drugs, hot baths and palliative measures are required. Attention to the prostate, however, is indispensable in the management of inflammation of this area.

It is mainly with chronic disorders of the deep urethra that this discussion will deal. Here is the meeting point of the urinary and sexual tracts in the male. It is not surprising, therefore, to find in this region disorders causing bed wetting in childhood, masturbation in youth, inflammatory processes and sexual disturbances in adult life and urinary obstruction in old age.

Among the lesions commonly seen in the prostatic urethra are papillomas, cysts, bullous edema, diverticula, false passages, varicose veins, angiomas, bands, bars, valves, fibrous contractions, utriculitis and other abnormalities of the verumontanum, elongation or distortion produced by hypertrophy of the prostate gland and abnormalities which result from transurethral resection of vesical neck obstructions.

These lesions are readily recognized when seen through the McCarthy panendoscope. Hyperemia and hypersensitive conditions, which are the commonest of the deep urethral disorders, are readily detected by the passage of urethral sounds. Nearly all sexual disturbances arise from endocrine deficiencies and from lesions of the verumontanum, while practically all obstructions are found back of it.

Failure to recognize the disorders of this vulnerable part of man's anatomy is due largely to failure to suspect them as being associated with the more or less ill defined symptoms produced.

Hyperemia and hyperesthesia of the deep urethra respond so well to treatment with sounds and instillations of 1 or 2 per cent solution of silver nitrate that more elaborate diagnostic measures than response to treatment are not required. If later this tentative diagnosis is shown to be inadequate, urethroscopic studies

may then be made with less discomfort than if preliminary dilation with sounds and instillations had not been employed.

The cutting current is generally used for correcting gross lesions of the deep urethra, congenital or acquired, such as valves, bars, bands and fibrous contractions. The coagulation current is used for small papillomas, cysts and varicosities.

The Verumontanum.—As the verumontanum is a very sensitive part of the prostatic urethra and is pressed on by muscular contractions of this area, disturbances of the verumontanum result in a variety of urinary and sexual symptoms. Unless suspected as the cause of these symptoms, the sensitive verumontanum may not be regarded as their cause. The anatomic position of the verumontanum made it inaccessible for observation with the ordinary cystoscope and it was not until the advent of the close vision cystourethroscope that accurate observation and studies of this area were made. Even today lesions of the verumontanum and the utricle are recognized less frequently by urologists than are the common bladder and renal disorders.

The pathologic changes most frequently noted are hyperemia, hyperesthesia, adhesions, cysts, neoplasms and strictures of the ejaculatory ducts. Associated with some disorders of the verumontanum are urethral obstructions and chronic prostatitis.

The symptoms of disorders of the verumontanum are postpubic or deep perineal itching, discomfort or pain, urinary frequency, nervousness or sexual symptoms such as premature emissions or impotence. Enuresis and excessive or prolonged masturbation in boys should suggest the possibility of an abnormal condition of the deep urethra or verumontanum as a causative factor. Occasionally persistent infection may result from infection in the utricle.

The most common condition caused by abnormalities of the verumontanum is sexual "neurosis" or sexual "neurasthenia." This is often associated with a mental disturbance or "nervousness" all out of proportion to the pathologic process causing it. And we say "causing it" advisedly for the reason that the symptoms disappear almost directly in proportion to the correction of the abnormalities of the verumontanum.

Unfortunately disorders in the prostatic urethra are not characterized by lesions always discernible by cystourethroscopic study. They are made just as obvious, however, by appropriate remedial measures. The cure of the multitude of ill defined complaints is quite as convincing as urethroscopic studies could be. By this is not meant that adequate studies should not be made but rather that, at times, and not infrequently, appropriate treatment with sounds and medication to the prostatic urethra will correct symptoms not assignable to any lesion sufficiently gross to recognize endoscopically.

Appropriate treatment of hyperemia and hyperesthesia of the verumontanum consists in correction of etiologic factors such as prolonged "necking" without sexual gratification, masturbation, withdrawal before emission and other such abnormal habits.

The urethra should also receive corrective treatment for abnormalities such as a small meatus and stricture if present. Even though no stricture is found, sounds should be introduced about once a week and allowed to remain in the urethra for about ten minutes. These tend to lessen the deep urethral hyperesthesia and hyperemia and are of value whether or not urethral strictures are present. In three or four weeks the sound should be followed by an instillation of 2 cc. of 1 per cent silver nitrate. In subsequent treatments the strength of the instillation should be increased gradually to about 2 per cent.

After tolerance to these treatments has been acquired and if symptoms still persist, cystourethroscopy should be made, at which time adhesive bands, cysts or polypoid growths should be corrected by the high frequency fulgurating current or with cystoscopic scissors. This is not the procedure to be employed for hyperemia or hyperesthesia of the verumontanum. Instead at a later treatment silver nitrate in a concentrated form is applied directly to the verumontanum through an endoscope. This is not done until tolerance of the deep urethra to instrumentation has been obtained by the introduction of sounds and by the instillations of silver nitrate. Application of concentrated silver nitrate (20 per cent) is facilitated by the use of an endoscope with rounded edges, not requiring an obturator. Observation is thus permitted as the endoscope is introduced. When the verumontanum comes into view the applications may be made without undue fumbling or trauma. For many years we have found that the discomfort incident to the application of concentrated silver nitrate to the verumontanum and deep urethra is greatly lessened by first applying a 50 per cent solution of phenol. This application is followed by a dry applicator, and then the application of silver nitrate is made. When preceded by suitable preparatory treatments these applications are rendered comparatively free from pain, both immediate and late. They are likely to be followed by frequency in voiding for three to twelve hours and occasionally by terminal hematuria. These mildly disturbing reactions, however, are unimportant when compared to the benefit derived from the treatments. It is our impression that the applications of silver nitrate to the verumontanum is decidedly preferable to coagulation of this area with the high frequency current.

Let it again be emphasized that these applications should not be employed until after tolerance to deep urethral instrumentation has been induced, by sounds and instillations of 1 and 2 per cent solutions of silver nitrate.

Vesical Neck Contracture.—Following transurethral resection, contracture of the vesical neck has been observed not infrequently. This obstruction is in the form of an iris diaphragm-like fibrous ring at the internal urethral opening. Patients with this condition have symptoms of deep urethral irritation and slowing down of the stream after an apparent excellent immediate result. This diaphragm-like contraction is of fibrous tissue and is more likely to occur in patients following resection of small fibrous prostates than in those with adenomatous obstructions; also when the resection is carried too deeply in the floor at the region of the internal sphincter. For many years it has been our practice to do cystourethroscopies after transurethral resections. These examinations are made from two to four months after the resection. When fibrous contractures are observed we customarily use cystoscopic scissors to incise this fibrous tissue. Little pain is occasioned by this procedure and relief usually is immediate. Weekly dilation of the posterior urethra

with the Kollmann dilator is employed to prevent the recurrence of the contraction as healing takes place.

Mild incontinence has been noted occasionally following transurethral resection. This condition varies from a slight weakness of the external sphincter which allows a few drops of urine to leak when straining or coughing to a real incontinence. Examination through the panendoscope reveals damage to the sphincter usually in the form of a small cavity or area of destruction on one side of and slightly anterior to the verumontanum. Light fulguration with the high frequency current directly over this area causes fibrous tissue formation which contracts the gap in the sphincter muscle and improves continence. Additional light fulguration at five to six week intervals may be needed to bring about complete continence. These treatments are usually carried out in the office, since only light fulguration is needed.

BACKACHE

Low backache in the male responds remarkably well to urethral dilation and massage of the prostate gland. Just why such results should occur we cannot say. Strange as it may seem, relief of low backache and pelvic discomfort often follows prostatic massage and the introduction of sounds even when the prostatic secretion shows few or no pus cells and strictures of the urethra are not detectable. Among the patients with low backache who come to urologists, 50 per cent or more will respond to prostatic massage and the appropriate use of sounds and instillations of 2 cc. of 1 or 2 per cent solution of silver nitrate into the deep urethra.

ENURESIS

Unless bed wetting is caused by some definite condition such as a cord lesion, vesical neck obstruction with residual urine or from a stone in the bladder, the most dependable treatment is dilation of the urethra with sounds or bougies. As with adults, meatotomy should be done when the meatus is small. This plan of treatment is employed both for boys and for girls. The dilations are administered once a week and are usually the only treatment needed. The bed wetting usually stops after from one to ten treatments.

Occasionally in boys instillations of 1 or 2 per cent solutions of silver nitrate into the deep urethra after each treatment with the sound will be required. In boys 1 or 2 per cent solution of Intracaine is injected into the urethra before the sounds are introduced. This does not completely relieve the discomfort, but with gentleness, a few pennies and "Popeye or football talk" the treatments nearly always may be carried out satisfactorily.

SUMMARY

Chronic urethral inflammations and irritations are most frequently associated with causative obstructions. Success in treatment often depends on the treatment of the inflammation simultaneously with dilation of strictures.

Disorders and lesions of the deep urethra are the cause of many of man's ill defined and disturbing complaints, especially those which concern pelvic discomfort, urinary symptoms and sexual impotence.

When employed with reasonable judgment and a fair degree of skill, treatment of lesions of the prostatic urethra usually respond satisfactorily.

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DYSURIA AND NOCTURIA IN THE PRESENCE OF NORMAL URINE IN THE FEMALE

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Recently we reviewed a series of 600 case histories in the female, our object at that time being to evaluate all etiologic factors that were directly or indirectly responsible for bladder symptoms. We were impressed with the unusually large number of urethral caruncles and made them the subject of a special report recently published. Probably as a result of that publication we were asked to continue our studies of the remaining cases of that series and report our findings in only those cases in which, although bladder symptoms were present, there was an absence of pyuria. To conform with this request we rechecked the histories of that series and eliminated 86 cases in which upper urinary tract involvement and obvious bladder disease such as tumors and stones were the basic etiologic factors in the production of bladder symptoms. This left 312 cases, in 160 of which pyuria and urinary tract infection were present and in 152 infection was absent. The latter group will be the subject of this report. We will briefly discuss some of the more common lesions found to be the causative factors in the production of bladder symptoms and will discuss in detail our methods of examination and refer briefly to therapeutic measures.

This review brought out two points of interest with which we are certain all urologists will agree: First, there is an apparent lack of interest shown in these bladder cases by the medical profession. Treatment is too often on a "pay as you go plan," and seldom is there any attempt at a local or physical examination. Second, when these patients after many years of suffering consult a urologist they expect him to have the knowledge also of the following specialists: dentist, gynecologist, internist, laryngologist, neurologist, orthopedist and proctologist.

We must face the cold fact that these patients come to us for relief. They are suffering with "sick bladders" and usually have been either inadequately, excessively or unnecessarily treated. It is our duty, not only to give them the benefit of our experience as urologists, but to utilize our full knowledge of all specialties. We must not turn them away as being neurotic until that diagnosis is definitely established.

We try to impress on our medical students the necessity of obtaining an accurate history of all previous ailments with special reference to all bladder symptoms, previous operations (abdominal or pelvic), focal infections, menstrual cycles, personal habits such as food, drink and medication, and even the type of cigarets used. We must bear in mind during this inquiry that we are dealing with a strange individual in a strange environment, pessimistic as to our ability to give relief, nervous with anticipation of probable painful instrumentation, and that foremost in her mind is the possibility that she may have a cancer.

This paper, in a symposium on "Office Treatments in Urology," is published under the auspices of the Section on Urology.

METHOD OF EXAMINATION

When this patient has finished the story of her symptoms, and if we have been alert, many more pertinent facts can be elicited from her with some of the following interrogations: Do you have this frequency both day and night? Do you get any relief following urination? Is your pain before, during or after urination? Do you have "loss of urine"? Is this loss more pronounced when you are on your feet or while in bed, or noted more during exertion, coughing or sneezing? Are your bladder symptoms aggravated during your menstrual periods? Do you have local discomfort while walking or when sitting? The replies to these and other interrogations will frequently assist us in our examination. We cannot gain the confidence or cooperation of the patient unless we sincerely regard her as an ill, suffering human being.

Our routine method of examination is as follows: The patient is given to an intelligent, sympathetic nurse, who places her flat on the x-ray examination table, legs over the end, with her feet resting on a stool and her abdomen exposed. By this method we obtain satisfactory relaxation for palpation with special reference to localized or general pain or abnormalities; we can inspect for operative scars and, if so desired, can elevate or lower the table for general physical examination, including teeth, tonsils and x-rays. She is next placed in the lithotomy position and prepared for inspection of the external genitalia and urinary meatus. Urethral caruncles are one of the most frequent causes of symptoms, and in this position any of the various types located on the external urinary orifice can be easily identified. The examining physician must not be misled with a negative finding externally. It has been our experience that there are many caruncles located immediately behind a small caliber, rigid meatus. In our series this "intraurethral" type is more prevalent than the external type and can easily be overlooked unless the following technic is used routinely: Insert in the meatus a small cotton swab saturated with a 10 per cent cocaine solution and allow it to remain five minutes. Then by gentle traction on the swab the intraurethral caruncle, if present, can be pulled forward to the external orifice and its size, shape and location in the meatus can be noted. In several instances the contracted meatus necessitated dilation before the growth could be demonstrated on the inner surface of the urethral mucosa immediately behind the dilated orifice.

If a caruncle of either type is discovered, regardless of its size or location, we rarely attempt further examination at this time unless we are dealing with an extremely cooperative patient. Hospitalization with proper environment is advised. We administer a light anesthetic, frequently low spinal, so that a more satisfactory study of this tumor can be made. It is to be borne in mind that a urethral caruncle is a potential obstruction at the urinary outlet with the possible sequence of edema, stasis, infection of the urine and back pressure. With these sequelae as a possibility it is advisable that before any type of treatment is applied to the caruncle the patient should have the benefit of a complete study, not only of the urethra and bladder, but in most cases of the upper urinary tract as well.

RESULTS OF EXAMINATION

In our reported series of 202 cases of urethral caruncle the following findings in the urinary tract were noted:

Urethral strictures were present in 8 cases. The strictures were located immediately adjacent to the caruncles, and all these patients gave histories of previous applications of cauterizing solutions.

Urethritis was present in 81 cases, which showed varying degrees of easily recognizable urethral inflammation.

In 54 cases of cysts at the vesical orifice cystic degeneration of the mucosa of the vesical orifice was easily demonstrated.

In 111 cases the bladder urine showed infection, both acute and chronic.

In 20 cases the bladder was contracted to a capacity of less than 6 ounces (178 cc.).

In 2 cases interstitial cystitis was found and in 2 cases bilateral pyelonephritis.

As a result of the frequency with which involvement of the urinary tract above the caruncle was demonstrated in this series, we conclude not only that urethral caruncles should be regarded as an important etiologic factor in the production of bladder symptoms but that in many cases they act as true obstructions to the urinary outflow and produce the complications of urinary obstruction.

In the routine of eliminating caruncles or other disease at the meatal orifice we have also noted abnormal changes of the labia and surrounding structures, including the anal orifice. There were 3 patients with uncontrolled, advanced diabetes who showed edema and excoriations of the external labia. Although much valuable information can be obtained by a thorough inspection of the perineum in the multipara, the examination should include palpation of the rectovaginal partition with the gloved finger of one hand in the rectum and the examining finger of the other hand in the vagina. Frequently one can demonstrate perineal relaxations that visually have not been evident.

There were 5 cases in this series in which the bladder symptoms were the result of a partial procidentia caused by a relaxed perineum.

By separating the labia one can easily observe changes in the character of the mucous membrane of the lower vaginal wall; at the same time the presence or absence of any abnormal vaginal discharge can be detected. If such discharge is present, microscopic examination is, of course, indicated. There were 5 cases in this series in which Trichomonas vaginalis was demonstrated and was the only causative factor in the production of bladder symptoms.

Pathologic change in and around the rectum should also be noted, as it may be the sole cause of the production of bladder symptoms. Hemorrhoids have been commonly noted in our findings but in most cases have been disregarded, for we believe that they are usually the result of urinary straining and not the cause of urinary symptoms. There were 2 young women who came to us with very troublesome bladder symptoms in whom our examination was entirely negative except for the presence of hemorrhoids. Both of these obtained complete relief following appropriate treatment of the hemorrhoids.

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External examination should be completed by a thorough and complete bimanual pelvic examination, and it is this portion of the examination which we believe to be of extreme importance. If not thoroughly satisfied with our findings we always request the assistance and advice of a gynecologist. This examination must determine the relative importance of relaxations of the anterior vaginal wall (cystoceles) and demonstrable abnormalities of the pelvic organs, either in size or in position, for the only manifestation of many of these conditions may be in the bladder symptoms they reflexly produce.

It is a fact acceptable to most urologists that the female urethra harbors numerous organisms, the so-called fossa navicularis being the chief offender. In view of that fact, one may be subjected to adverse criticism for passing a catheter through an infected urethra in order that a specimen of bladder urine may be obtained. We are certain that, if this procedure is carried out aseptically and without trauma and is preceded by proper cleansing of the external genitalia, no unfortunate results will follow. While all urologists recognize the extreme importance of having a catheterized specimen of urine for microscopic examination, its importance is seldom recognized by other members of the profession. In this series all patients were catheterized during our routine examination. We use graduated steel female catheters with aseptic technic, and our records show that we have no cause for regret in a single case.

Regarding this matter of acute inflammation, suppose we have a patient with a symptomatic bladder, pus, blood and organisms in the urine, and from those findings realize that we are dealing with an acute inflammation of the bladder of unknown cause. We are now faced with the question Shall the investigation be continued with further instrumentation in this acutely inflamed bladder, or shall it be given temporary rest with internal medication, forced fluids, sedatives and so on?

TREATMENT

Bearing in mind surgical principles in treating inflammatory lesions in other organs of the body, our experience has been to let such a bladder alone temporarily unless an emergency condition demands further investigation. The patient's bladder is symptomatically ill, and she should be placed in a hospital, where she can be under supervision. Should circumstances not permit hospitalization, she is told that she has an inflammation of the bladder and we do not think it advisable to proceed further at this time.

Rest in bed is advised, at least 8 or 10 glasses of water in the twenty-four hour period, a soft diet, with special instructions to eliminate all fruit juices. The patient is given twenty-eight tablets of 7½ grain (0.5 Gm.) sulfathiazole and instructed to take one tablet after meals and at bedtime. In prescribing this drug we tell her that it can be used for only a limited time and is not a cure but will probably relieve her acute symptoms. She is instructed to return at the end of one week. The majority of patients after following this plan of procedure return sufficiently improved to justify us in continuing the bladder investigation. For patients showing little or no improvement we immediately demand hospitalization.

Visualization of the interior of the bladder by cystoscopy was done in each of the 152 cases. Frequently a combination of two or more etiologic factors was found in the same case, such as pelvic abnormality and urethral cysts, or intramural cystitis. In the statistical portion of our report each condition will be discussed separately, and consequently some of these cases will appear in more than one group.

One of the common causes of bladder symptoms encountered in this series was cystic degeneration of the mucosa of the vesical orifice. This condition was noted in 70 cases. For the sake of simplicity and for want of a more appropriate term we will refer to this condition as "cysts." These cysts can be described as appearing in a variety of forms and may be classified as single or multiple, bullous or pedunculated. In several cases the two types were observed in the same individual.

The bullous type was encountered in 26 cases and appeared as superficial, rounded elevations beneath a thin urethral mucosa, which was more or less distorted by associated edema and congestion and resulted in the formation of folds of mucous membrane with intervening clefts. It is interesting to note that in 16 of these cases not only was the urine negative for infection but there was no residual urine. In the remaining 10 cases varying amounts of residual urine were found. The cytoscopic findings in the 44 cases in which the pedunculated type predominated presented an entirely different picture. In several patients the cysts were located inside the vesical orifice adjacent to the trigone and in others they were found in the urethra just outside the sphincter. Such cysts may be either single or multiple and appear to have a short pedicle and a uniform circumference and terminate in the form of a rounded knob protruding into the vesical orifice. They are covered with a very thin, colorless mucous membrane, and small vessels can be visualized coursing through their entire length from the mucosa to the apex. In none of the cases of the pedunculated type was there found to be residual urine.

Urinary symptoms varied in different individuals, though frequency was recorded in all, and in most cases, particularly those in which there was no residual urine, frequency was aggravated while the patient was on her feet. In the cases with varying amounts of residual urine there were the additional symptoms of burning, straining and occasionally hematuria. Three of the cases of the bullous type gave a history of urinary retention.

A personal experience during our examination of 1 of our earlier cases in this series is worthy of mention, as it clearly proves the necessity of a thorough and complete examination in all cases of this type. The urinary history was suggestive of some type of bladder disturbance, but a catheterized specimen of urine was found to be negative chemically and microscopically. Following a careful examination, including a very satisfactory visualization of the bladder, trigone and vesical orifice, no evidence of abnormalities was discovered. As the patient was very cooperative we introduced a urethroscope to the sphincteric margin and limited the inflow of fluid in order to visualize the vesical orifice before distention. Much to our surprise several pedunculated cysts were washed through the sphincter

and were easily identified. We heartily recommend this procedure.

The cause of cysts at the vesical orifice has never been definitely proved. It may be purely coincidence, but a review of the 70 cases disclosed that there had been previous pelvic surgery in 48, and sufficient pathologic change was discovered in the remaining 22 cases to cause us to believe that any condition that will produce an alteration of the normal blood stream supplying the vesical orifice should be given consideration as an etiologic factor in the production of cystic degeneration of the mucosa of the vesical orifice.

In our early experience selected patients with these lesions were treated in the office. However, our most satisfactory and permanent results have been obtained when the patient was hospitalized. With light anesthesia, preferably low spinal, the lesions are treated by direct application under vision with the high frequency spark, it being necessary not only to cauterize the base of the protruding cyst, but to cauterize gently all of the mucosa of the vesical orifice. We believe that this additional procedure not only will frequently prevent recurrences but will destroy certain cysts that are still submucoid in type and are not sufficiently far advanced to be visible during cystoscopy. It, of course, is advisable to refer the patient to a gynecologist for correction of any pelvic abnormalities. In our introductory remarks we suggested that the successful urologist is one who not only is qualified to practice his own rather limited specialty but is one who should be thoroughly familiar with the basic principles practiced in other related fields of medicine. We are prompted to emphasize these remarks after reviewing the findings in a series of 72 cases in which pelvic disease was demonstrated, for most of the complaints so definitely directed our attention to the bladder that the possibility of fibroids and ovarian cysts being present was entirely overlooked. We cannot emphasize that fact too strongly.

It is far from our thoughts to trespass on the field of gynecology, but as urologists we must be prepared to make a satisfactory pelvic examination and as urologic teachers we should impress on our students the necessity of making such an examination in the cases of the type included in this series.

Each of these 72 patients complained of frequency of urination, especially severe during the day, following exertion and usually relieved by reclining. Burning and pain were also present in 50 of the cases. There was considerable difficulty in urination in 10 cases and retention in 6. When the bladder was distended in 35 cases it was noted that the normal contour was altered by filling defects, many of which were demonstrated with cystograms. Cystoscopy was accomplished in 3 cases with great difficulty and was not particularly satisfactory because of distortion of the urethra and bladder as the result of small impacted fibroids in the anterior surface of the uterine wall. Cysts of the bullous type were encountered at the vesical orifice in 10 cases and the normal contour of the trigone was definitely altered, both elevated and distorted, in 12 cases.

In several cases there was definite prominence of the veins of the bladder mucosa immediately inside the vesical orifice. These at times were so prominent as to be true varicosities. All of this series of 72 patients were referred to gynecologists, who corrected the pelvic disease.

POSTOPERATIVE OBSERVATIONS

With the cooperation of the gynecologist we were fortunate in having the privilege of following many of these patients postoperatively, for many of them required rather careful postoperative care of the bladder.

All surgeons have their individual methods of handling postoperative bladder retention, and for many years we followed the custom of catheterization as indicated. Many patients developed bladder infections, so we altered that technic and now use the following procedure: The bladder is not disturbed after the operation until the patient complains of discomfort with an inability to void. In the meantime we use the hospital routine of all psychologic procedures, and if results are not obtained by these methods the patients are catheterized by an experienced nurse and the bladder is irrigated at the time with a weak solution of silver nitrate. Many patients become mentally perturbed because of this urinary complication, but they are assured that it is a common occurrence after surgery. After the initial catheterization we wait a reasonable length of time and if the patient is unable to void we introduce a number 18 French wing-tipped, self-retaining catheter, permitting the urine to drain continuously in a sterile receptacle. The bladders are irrigated at least three times daily with 2 ounces (60 cc.) of sulfanilamide solution; sulfonamide drugs are given by mouth or intravenously as indicated. The catheter is removed on the third or fourth postoperative day. By this method we have obtained very satisfactory results.

We have been fortunate in being able to reexamine 10 of the aforementioned 12 patients within a year after surgery. The cystoscopic findings of all 10 showed that the trigone had returned to its normal condition; the varicosities had been obliterated in 8, but in 2 cases their appearance remained unchanged, though with improvement in bladder symptoms. From the 10 cases of recorded cysts the cystoscopic picture was unchanged, though the urinary symptoms were improved. Eight of these patients were later treated with very satisfactory urinary results. The 2 remaining patients refused treatment on the ground that the urinary results were satisfactory.

Pathologic examination in this series revealed 17 fibroids, 7 complete and 5 partial procidentias, 20 malpositions of the uterus, 3 unilateral ovarian cysts, 2 hypertrophied cervices, 1 bilateral pyosalpinx, 2 calcifications of the uterus and 15 cystoceles with associated lesions.

The immediate postoperative results in the series were gratifying. Some of the patients returned in later years with what they thought was a recurrence of their original trouble, but examination proved the lesion to be inflammatory with an occasional bladder contracture. They obtained relief by routine office treatment, including bladder dilation.

COMMENT

In briefly commenting on this series, we feel that we can safely state that if any organ or organs in the female pelvis become deranged, either functionally

or pathologically, interfering with the normal bladder function, the bladder will signify this interference with a symptomatic response such as frequency, straining, burning or retention of urine.

In reviewing 23 cases of Hunner ulcers or interstitial cystitis as a primary cause of bladder symptoms we found that in all cases there was a history of chronicity with alternating periods of severe and mild symptoms with the fear that a cancer was present.

The cause is unknown, but we have long been impressed with one factor, namely that the urine of these patients practically always has a high p_H. Possibly rather than a local condition of the bladder mucosa this pathologic change may be a local manifestation of some general metabolic irregularity.

In this series the symptom of frequency predominated and in most cases was associated with burning and suprapubic pain, but immediate relief of all symptoms was obtained after urination. We recorded clear urines in 18 cases, pus and organisms in 5.

On cystoscopy, all these bladders had reduced capacities. The bladder mucosas showed a very mild congestion with either single or multiple areas of intense inflammatory reaction, and these areas were not confined to any special location and seldom to true, destructive ulceration. Overdistention of the bladder (irrespective of the capacity) is almost always followed by hematuria. All these cases were recorded in our early experience, and we followed treatment outlined at that time with only temporary results. In later cases not recorded in the series our best symptomatic results have been obtained with the use of solutions of silver nitrate in increasing strengths, depending on the patient's tolerance, and with gradual dilation of the bladder by the gravity method. We also give these patients large doses of acidifiers, as we believe that it is more than a coincidence that they respond to therapy much better when we are able to keep the urinary p_H at a point lower than 6.

These patients must fully appreciate that while intramural cystitis is an extremely troublesome condition it does not place their lives in jeopardy. They must also thoroughly understand that the treatment is entirely symptomatic and that the severity of the symptoms may vary from time to time.

We have a group of 8 cases in another series in which the specific irritating effect of certain chemicals on the vesical neck has been amply demonstrated. This irritation is manifested by the bladder with the symptom of frequency of urination. Frequently the offending agent is one of the volatile oils, the port of entry being either by the lungs or by the gastrointestinal tract.

Several years ago we were confronted with a diagnostic problem by a woman whose only complaint was frequency of urination of several weeks' duration. As she described the symptom, it was more noted during the day. She presented ample medical evidence that eliminated all objective pathologic change. In summary, our detailed urologic findings were entirely negative and the urine was clear. In the meantime one of us discovered that she was an excessive cigaret smoker. In a joking way it was suggested that she change brands, which she did, and all urinary symptoms disappeared within forty-eight hours.

The remaining 7 patients all gave histories of excessive cigaret smoking with symptoms of frequency of two weeks' to three months' duration, negative physical and urologic findings with clear urines, and all relieved within sixty-four hours of changing brands of cigarets.

The eighth patient gave a history of acute bronchitis of four days' duration with sudden onset of frequency day and night—negative urologic findings with clear urine. Examination of a prescription she was taking noted "menthol" as an ingredient. Bearing in mind our experience with the aforementioned 7 cases we suggested changing the prescription and eliminating the menthol. Urinary relief was obtained within twenty-four hours.

One patient with complaints similar to those in the foregoing series had symptoms of frequency which were noted at night and gave a history of taking large doses of barbiturates. With a finding of clear urine it was suggested that she eliminate or change the drug and no detailed examination was made. The patient reported one week later that her symptoms had disappeared.

Another group similar to the foregoing is one in which the subjective symptom is accompanied by an excessive excretion of phosphates or phosphaturia following ingestion of alkalis or citrus fruit juice. Sixteen cases are recorded in this series, all with the same history of frequency of urination day and night, with an average duration of symptoms of two weeks and average weight 165 pounds (75 Kg.). The first patient to report demanded hospitalization for a complete physical and urologic examination. The physical findings were unimportant relative to her symptoms and the first urine examination was negative clinically and microscopically. Detailed urologic examination elicited negative findings. We reviewed her history and she admitted that she had been treating with "a fly by night quack," a specialist in dietetics who guaranteed loss of poundage by limiting her diet to an intake of 4 quarts of orange juice daily in addition to his "secret medical formula." Regulation of her diet immediately relieved her symptoms. It is needless to add she was the urologic "guinea pig" for the remaining patients who reported later with the same story and also a factor to add to our urologic oddities that can be classed as primary bladder symptom producers with the finding of negative urine.

CONCLUSIONS

As in other fields of medicine, pronounced pathologic disturbances in the bladder are often easy to recognize. It is the milder and less obvious conditions which tax the ingenuity and resourcefulness of the doctor. Many times, although the pathologic alteration is not great, the functional derangement may be most severe and distressing to the patient. Dysuria often falls into this category, and the cause of the disturbance can be found only by a sympathetic approach to the patient's problem, by attention to detail in the matter of careful and complete history taking and examination and by the use of methods of treatment which have proved their value.

Our experiences in this field demonstrate how varied the causes of dysuria may be and how they can be discovered only by careful study and examination.

5 West Fourth Street.

PROSTATITIS AND SEMINAL VESICULITIS: ACUTE AND CHRONIC

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Infection of the prostate and seminal vesicles may present a clinical picture varying from that of an acutely ill patient to that of one who is unaware of a smoldering infection. The symptoms and diagnosis of an acute infection of the prostate present little difficulty; but the insidious onset and absence of symptoms pointing to the urinary tract in many chronic infections may fail to attract the patient's or physician's attention to the prostate as the source of infection. Although usually not dangerous to life, chronic prostatic infections may cause suffering and inconvenience out of all proportion to the actual extent of the disease.

Chronic prostatic infections occur with greater frequency than is generally believed. Hinman [1] states that 35 per cent of all adult males have infected prostates. They occur more frequently in middle life—that is, between the ages of 30 and 50. The manifestations may be so capricious, with no symptoms referable to the prostate, that it becomes a matter of chance during routine examination to discover the prostate as the source of infection. A cardinal principle of surgery is violated in treating these patients by massaging an infected area; yet much clinical evidence has accumulated to justify such treatment, since most patients may thus be relieved of their infection.

ETIOLOGY

Acute prostatitis and seminal vesiculitis usually develop from an active infection in the posterior urethra. This infection may arise from an acute urethritis, may be secondary to an infection of the upper urinary tract with infected urine, may be metastatic or may result from a general pyemia. The offending organism may be the gonococcus, but any other pyogenic bacteria can produce an acute prostatic infection. An abscess may develop or the process may subside, giving place to an ordinary chronic infection.

Chronic prostatic infections, in most instances, are not caused by the gonococcus. Kretschmer,[2] in a study of 1,000 cases of chronic prostatitis, identified the gonococcus as the offending organism in only 24. Gram-positive cocci are frequently mistaken for gonococci both in urethral and in prostatic smears and a diagnosis of gonorrhea is erroneously made. Gonococci should be searched for with extreme care before the diagnosis of gonorrhea is made. It is unfortunate that patients as well as many practitioners are of the opinion that chronic prostatitis is preponderantly due to, or the result of, gonorrheal urethritis. This point of view is regrettable since it does an injustice to many patients suffering from chronic prostatitis.

Undoubtedly a certain percentage of cases of chronic prostatic infection result from gonorrhea, even though the gonococcus cannot be demonstrated in the prostatic secretion. Other bacteria are found in the strippings from the prostate, and the role of preexisting gonorrhea must remain uncertain. A large percentage of these patients give no history of gonorrhea, and the origin of the infection must be sought for elsewhere. Kretschmer,[2] in a study of the cultures from 407 patients with chronic prostatic infection, found colon bacilli and staphylococci to be the most frequent organisms. This corresponds with the findings of Hill [4] and many other observers. Frequently more than one type of organism is found in the prostatic secretion. In a series of 170 cultures 60 contained two or more organisms, while 22 failed to reveal any bacteria.

In a certain number of cases, chronic prostatitis is the result, or aftermath, of an attack of acute prostatitis. As the acute infection subsides, the prostate remains infected and requires treatment to eradicate the infection completely. Even after an abscess has run its course by absorption or rupture or has been relieved by operation, a certain amount of infection of the prostate usually remains, as may be demonstrated by a careful examination of the strippings.

The prostate may become infected from direct extension of an acute urethritis, the bacteria entering the gland by way of the prostatic ducts. This is the usual method of involvement of the prostate from gonorrhea or from a nonspecific urethritis.

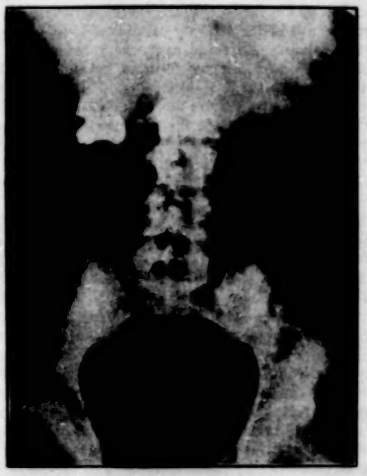

Fig. 1.—Pyelogram showing moderate hydronephrosis and pyelonephritis discovered in a patient presenting symptoms of chronic prostatitis.

Distant Foci of Infection.—It is a well recognized clinical fact not only that chronic prostatitis may be the focus of infection which produces metastatic disease in remote parts of the body but that the prostate may itself be infected from foci in other parts of the body. It is accepted by most urologists that the prostate may become infected from the teeth, tonsils, intestinal tract, respiratory tract, furuncles and other sources.

The method by which these bacteria reach the prostate has not been proved. Many urologists believe that

This paper, in a symposium on "Office Treatment in Urology," is published under the auspices of the Section on Urology.

1. Hinman, Frank: The Principles and Practice of Urology, Philadelphia, W. B. Saunders Company, 1936.
2. Kretschmer, H. L.; Berkey, H. A.; Heckel, N. J., and Ockuly, E. A.: Chronic Prostatitis: A Critical Review of 1,000 Cases, Illinois M. J. 73:152-161 (Feb.) 1937.
3. Kretschmer, H. L.: Medical Management of Chronic Prostatitis, Wisconsin M. J. 38:363 (May) 1939.
4. Young, H. H., and Davis, D. C.: Practice of Urology, Philadelphia, W. B. Saunders Company, 1936, vol. 1, p. 362.

the organisms enter the blood stream and are carried to the prostate directly. Others visualize these absorbed bacteria from various foci entering the blood stream, to be excreted from the kidney; then, during their passage from the kidney through the bladder, some bacteria

Fig. 2.—Pyelogram of same patient as in figure 1 after treatment with urinary antiseptics and dilation of the ureter.

lodge in the prostatic ducts, eventually to produce a prostatic infection. There is some evidence to substantiate this theory. It has been shown that pyogenic bacteria may be excreted by the kidney without producing pus or other evidence of infection in the urinary tract in the absence of obstruction. Tuberculosis frequently involves the kidney primarily, then invades the prostate, seminal vesicles and epididymides as the bacteria pass to the bladder in the urine and are voided. If tubercle bacilli follow this sequence, it is argued, why should not other bacteria do likewise? Hill [4] has shown the frequency with which the same bacteria are found in the urine as are found in the prostatic secretion both by smear and by culture. This suggests that bacteria excreted through the kidneys may be the source of the organisms producing prostatic infections.

This mode of infection is further suggested by patients presenting symptoms of chronic prostatitis who actually have demonstrable infection in one or both kidneys. Usually the renal infection may be suspected by the finding of pus in the first, second and third glasses of voided urine. However, in some instances the second and third glasses of voided urine may be macroscopically clear and the presence of infection in these specimens may be overlooked. In other instances the infection may be absent in some specimens only to appear at a subsequent urine examination. Such a typical case was seen recently. A policeman presented symptoms of chronic prostatitis. His voided urine showed a few pus cells and shreds in the first specimen, but the second and third glasses were normal. On occasional subsequent visits each glass of voided urine showed pus cells. There were no symptoms referable to his kidneys. After about six weeks of treatment by prostatic massage without complete relief a thorough urologic investigation was carried out. This revealed a moderate infection in his right kidney with some hydronephrosis. The same type of bacteria was cultured from both the kidney and the prostatic strippings (fig. 1). Adequate treatment directed to this kidney restored it to normal, as evidenced by a pyelogram (fig. 2) and functional tests. With subsequent treatment of his prostate by massage the prostatic secretion became entirely free from infection. It is difficult to evaluate the sequence of events in this case. Whether the kidney infection antedated the prostatic infection or was secondary to it cannot be stated with certainty. However, one should be constantly aware of the possibility that some other focus in the urinary tract may be responsible for failure to obtain results in the treatment of a prostatic infection. Such a focus may constantly reinfect a prostate even during the course of its treatment.

A case of renal tuberculosis may be erroneously diagnosed and treated as a case of chronic prostatitis. Another recent patient had been thus treated, and only a thorough examination revealed the primary source of his infection to be in the kidney (fig. 3). It is true that his prostate was infected, but this local infection was evidently secondary to the renal lesion.

These cases are cited to suggest the possibility of the urinary tract being the means by which bacteria may

Fig. 3.—Pyelogram revealing renal tuberculosis in a patient presenting symptoms of chronic prostatitis for which he had been treated.

reach the prostate. Slight recurring attacks of pyelonephritis may go unrecognized or be passed off by the patient as a "cold in the bladder." Subsequent chronic prostatic infections may result from these renal lesions as the bacteria are voided in the urine and a few remain in the prostatic urethra to produce an inflammation.

Sexual Factors.—Much has been written on the relationship of sexual abuses to chronic prostatitis. Horseback or bicycle riding, alcohol, sexual overindulgence, withdrawal, prolonged sexual excitement, masturbation and prolonging the sexual act have all been considered factors in the production of chronic prostatitis. Undoubtedly, each may be a predisposing factor by causing congestion of the prostate. However, congestion alone will not produce an infected prostate; bacteria must invade the gland in some manner. Such sexual irregularities may logically be considered to produce a fertile field for the growth of bacteria once they have invaded the prostate. The path of the invading organism is uncertain, but the frequent contact of this congested gland with voided urine may result in the deposition of pathogenic organisms and the production of a prostatic infection.

PATHOLOGY

"Acute prostatitis begins as an acute inflammation of the prostatic ducts and acini and of the overlying posterior urethral mucosa."[5] The seminal vesicles usually also become involved. The infection may subside, or it may invade the stroma around the acini, coalesce and form a prostatic abscess.

Chronic prostatitis presents a similar involvement of the prostatic ducts and acini but is less acute in its onset and runs a more protracted course. The virulence of the invading organism is not so pronounced, and the prostatic ducts are less likely to be occluded early in the infection. The stroma may be invaded and, if uninterrupted by treatment, this invasion may finally progress to the formation of prostatic sclerosis. Hyams[6] failed to find inflammation of the seminal vesicles without similar involvement of the prostate; yet prostatic infection does occur without either seminal vesicle being affected. It therefore must be uncommon for the seminal vesicle to be the focus of an infection in the absence of prostatic disease.

SYMPTOMS

Acute prostatitis is ushered in by severe urinary distress. The voided urine is cloudy from pus, since an accompanying urethritis and cystitis are usually present. Urethral discharge may be profuse or absent, depending on the drainage from the prostatic ducts. Pain, fever, chills and frequent, difficult urination are present in varying degrees. Complete urinary retention may occur and, when it does, is suggestive of the formation of an abscess.

The symptoms of chronic prostatitis and seminal vesiculitis may not so readily attract attention to the affected area. In many instances, attention is directed to the prostate by the history and urinary symptoms; on the other hand, the absence of urinary symptoms and findings may fail to suggest a prostatic infection. In general, the subjective symptoms may be divided into three groups: (1) predominantly urinary symptoms, (2) symptoms, resulting from chronic prostatic infection, referable not to the prostate or urinary tract but to distant parts of the body and (3) some form of sexual dysfunction.

Patients with predominantly urinary symptoms (group 1) comprise the largest number. The symptoms immediately attract attention to the urinary tract as the source of the infection. A mild urethral discharge may be the only presenting symptom of chronic prostatitis, and these patients are fearful that they have contracted gonorrhea. The urethral discharge is frequently caused by an infected prostate or seminal vesicle spilling some of its organisms into the urethra, to produce a urethritis. A careful microscopic examination of such a urethral discharge is imperative before one is justified in making a diagnosis of gonorrhea. The character of this discharge is extremely variable, but the discharge is usually less in quantity and more "sticky" or thinner than that present in gonorrheal urethritis. Such a discharge is found in almost 40 per cent of cases. Frequency of urination is often present and suggests the posterior urethritis so frequently encountered in prostatic infections. Any type of urinary symptoms may be present in chronic prostatitis, but none are pathognomonic of the disease. The intimate relationship of the prostate to the bladder neck would lead one to expect an infection of the gland to produce urinary symptoms. These may be quite severe, very mild or entirely absent. Pain of varying degree may also be present in the prostate. It is usually mild, although at times it is described as really severe. Pain caused by the prostate may be referred to the perineum, urethra, penis or rectum and may be aggravated by sitting on a hard chair. Relief may occasionally be obtained by crossing the knees or by making pressure on the perineum.

In group 2 are patients who may be classified as having a "silent prostate," since no symptoms are referable to the urinary tract or the prostate, yet the prostate and seminal vesicles may be the foci of infection for some distant lesion. Among the common lesions for which the prostatic infection may be responsible are arthritis, bursitis, myositis, neuritis and iritis. When seeking for foci of infection, the prostate and seminal vesicles should be considered as routinely as the teeth, tonsils or sinuses. Early recognition of such a focus, before irreparable damage has been done, is important. Pain from prostatic infection is usually referred to the lower lumbar region or perineum but may occur any place in the pelvic region or down the legs. These vague symptoms are so common that one should routinely examine the prostate as a possible source of infection in patients manifesting them.

These indefinite pains may be so slight that the patient may be unaware that he is not quite normal. He may attribute them to "rheumatism" or a "strain," and it is astonishing how long these discomforts will be endured before the patient seeks advice as to the real cause of his trouble. The effect on the nervous system may become quite definite and true neuroses may make their appearance. The patient becomes restless, complains of lack of concentration and may feel that he is becoming prematurely senile. His anxiety as to the future and the constant feeling of ill health may provoke other varied symptoms. Gastrointestinal manifestations may appear, and "dyspepsia" or flatulence may be prominent. Unfortunately, in many of these cases there is nothing either in the history or in the symptoms to suggest a chronic prostatic infection as the cause of the disturbances.

Symptoms of sexual dysfunction (group 3) are fairly common; but in view of the fact that the prostate is a sexual gland, and considering the prevalence of prostatic infections, it is remarkable that sexual symptoms

5. Keyes, E. L.: Urology, New York, D. Appleton & Co., 1928.
6. Hyams, J. A.; Kramer, S. E., and McCarthy, J. F.: The Seminal Vesicles and the Ejaculatory Ducts, J. A. M. A. 98: 691-696 (Feb. 27) 1932.

are not more frequent and severe than they are. Undoubtedly some sexual disorders are caused or aggravated by chronic prostatitis, since treatment of the prostate occasionally results in considerable benefit of the sexual symptoms. However, so many factors are involved in most sexual dysfunctions that it is difficult to evaluate the primary cause. Certainly one should investigate the prostate carefully and attempt to rid it of any infection. According to Kretschmer,[3] premature ejaculations, loss of desire and weak erections are most commonly complained of by patients manifesting chronic prostatic infections.

DIAGNOSIS

In acute prostatitis and seminal vesiculitis any manipulation by rectum must be gentle, and massage and stripping are contraindicated. The history usually gives presumptive evidence of an acute infection, and urinary symptoms are referable to the seminal tract. Acute febrile reactions depend on the severity of the attack. The urine, even when voided in three glasses, is usually cloudy from pus. Careful rectal palpation will reveal a swollen, hot, tense prostate. Instrumentation should be avoided until the acute symptoms have subsided, but repeated gentle palpation of the prostate may be necessary for the diagnosis of prostatic abscess.

The diagnosis of chronic prostatitis is based on the findings of rectal examination and the microscopic examination of expressed prostatic fluid. The voided urine frequently contains shreds and occasionally some pus, although it may be entirely normal. The history may not give any evidence of a prostatic infection, and careful rectal palpation with repeated massages may be necessary to obtain pus in the prostatic fluid. The first gentle prostatic massage may express the fluid from those ducts which are uninfected, and the strippings may appear normal under the microscope. The infected ducts may be temporarily occluded by pus and débris, and two or three or even four examinations, at three to five day intervals, may be required to obtain strippings from all the prostatic ducts. Thus one may be uncertain of the presence of pus in the prostatic fluid obtained from a single examination. Although some urologists do not agree, Hinman[1] states that "the trauma of three repeated prostatic examinations (on alternate days) will not in itself cause the appearance of pus in the secretion if infection is absent at the start." These repeated examinations may stir up a latent or hidden focus which might otherwise be missed.

Many different positions for the patient to assume for palpation or massage of the prostate have been recommended. I myself prefer to have the patient kneel on a table, with the buttocks extended and the head down to a level with the knees. With the patient in this position the physician may palpate the prostate and seminal vesicles more completely, with less pain to the patient. The gloved finger, well lubricated, should be inserted very slowly past the rectal sphincter. When this careful procedure is followed, the patient will be less likely to draw away from the examiner, and he will be extremely grateful for one's gentleness. The shock of suddenly dilating the rectal sphincter may be much greater than that of massaging the prostate.

Often there is a decided discrepancy between the gross palpable changes in the prostate and the degree of infection manifested in the strippings. The examining finger may detect no gross change in the size or consistency of the prostate, yet it may be infected. More frequently the prostate is one or more of the following: enlarged, irregular in outline, nodular, boggy, indurated, with an occasional area of softness, and surrounded by adhesions from periprostatic inflammation. Normally the two lateral lobes, which are palpable by rectum, should be smooth on the surface, firm in consistency with a dividing median sulcus and freely movable from side to side. Each lobe should be about the size of the distal phalanx of the thumb.

The normal fluid expressed from the prostate is opalescent, slightly alkaline to litmus, filled with minute, translucent, lecithin bodies (somewhat smaller than red blood cells) and contains some epithelial cells, a few corpora amylacea, often spermatozoa and less than 10 leukocytes per high power field. One should not be misled in obtaining a normal secretion on first examination, particularly if rectal palpation gives evidence of an abnormal prostate.

The diagnosis of chronic prostatitis is established with the finding of an increased number of leukocytes in the prostatic strippings, particularly if they are seen in clumps. It is usual for the quantity of lecithin bodies to be decreased in the presence of many pus cells and, as improvement occurs, the leukocytes decrease in number and the lecithin bodies increase. Brunet and his associates[7] suggest the use of the peroxidase stain for prostatic secretions. This stain readily differentiates granular cells and lymphocytes from polymorphonuclear leukocytes. Trattner[8] has recently devised a "partition catheter" for the purpose of temporarily excluding the prostatic urethra from the distal urethra and the bladder. Between these two inflated bulbs are openings in the catheter which may be injected with a contrast medium to visualize the prostatic ducts by x-ray, or antiseptic solutions may be forcibly injected through them into the deep recesses in the prostate. He urges extreme care in the use of this catheter, since these solutions may be forced into the blood stream or into the ejaculatory ducts to produce epididymitis.

It should again be stressed that the prostate deserves to be considered a possible focus of infection just as much as the teeth or tonsils. The prostate is more likely to be overlooked when urinary symptoms are not present and the voided urine is normal. Every physician is aware that the small, buried tonsil is as dangerous a focus of infection as the huge tonsil with infected follicles. The prostate too may be harboring an infection which may be absorbed by the blood stream, and yet none of the infected material escapes through the prostatic ducts to produce urinary symptoms and give evidence of infection in the voided urine. Every practitioner should make proper examination of the prostate a routine procedure when searching for a focus of infection.

COMPLICATIONS

The mere finding of an abnormal prostate, by rectal palpation and pus in the strippings from it, should not conclude an investigation. Although the diagnosis of chronic prostatitis is thus established, one should seek the cause of the infection and attempt to eliminate factors which may prevent its ready response to treatment. Response to local treatment should not be expected,

7. Brunet, W. M.; Shaw, N. D.; Reinhardt, C. H., and Anday, L. J.: Chronic Prostatitis: A Clinical Review of 100 Cases in Which the Fresh and Peroxidase Stained Secretions Were Studied, Virginia M. Monthly **69**: 619-625 (Nov.) 1942.

8. Trattner, H. R.: The Introduction of Solution into the Tubulo-alveolar System of the Prostate Gland, J. Urol. **48**: 710 (Dec.) 1942.

when the prostate is being constantly reinfected from an infected tooth or tonsil, unless the source of the infection is first eliminated. Neither will a prostate respond to local treatment when a posterior urethritis, urethral stricture, cystitis or renal infection is present without adequate treatment of the complicating condition.

In the presence of an acute or a subacute infection of the prostate it is unwise to examine the remainder of the urinary tract. Even in the presence of chronic prostatitis it frequently is better to treat this infection for a reasonable time before resorting to a more thorough study of the urinary tract. However, one should not persist with local treatment when satisfactory response is not obtained without seeking for some coexisting complication. In fact, such complications are so common that many urologists prefer to consider chronic prostatitis as a symptom or a secondary infection from some focus the finding and elimination of which is essential to adequate and permanent relief. To discover the origin of such a primary infection often requires diligent and persistent search, but the problem should constantly be before one while treating chronic prostatic infections.

Besides the teeth and tonsils, the intestinal tract, gallbladder, cutaneous infections or perirectal infections may be the source of an infected prostate. Within the urinary tract almost any infective process may produce a prostatic infection and prevent the response of the latter to treatment. Among the more common causes are urethral strictures (often of large caliber), lesions of the urethra, chronic urethritis, urinary retention from hyperplasia or a fibrous bladder neck, vesical diverticula, prostatic calculi, chronic renal infections, tuberculosis, diabetes and syphilis. Careful observation of the voided urine should be made on each visit, preferably in two or three glasses. Evidence of infection in the second and third glass is suggestive of an infection of the upper urinary tract, yet such evidence may not be obtained at all times, as is the case when an intermittent pyelonephritis is present. A test for residual urine should be made from time to time. In short, when symptoms of chronic prostatitis are not relieved and the strippings do not show definite improvement within six weeks after a biweekly course of prostatic massage has been instituted, one should carefully search the urinary tract for a reason why the response has not been satisfactory. To persist with massage for prolonged periods is rarely necessary and suggests that a focus of infection may have been overlooked.

Failure to establish normal sexual hygiene may interfere with the improvement in chronic prostatic infections. On the other hand, the most careful and diligent search may fail to reveal the source of the infection in chronic prostatitis.

Before the diagnosis of chronic prostatitis can be properly established, it is necessary to rule out other lesions of the prostate. A tuberculous prostate usually presents an irregular nodular surface to palpation. It is almost always secondary to tuberculosis elsewhere in the urogenital tract, and careful search may reveal tubercle bacilli in the urine or, less frequently, in the prostatic strippings. Prostatic calculi may be suspected by palpating crepitation within the prostate and can be confirmed by x-ray examination. Advanced carcinoma of the prostate presents a stony hard induration. Early carcinoma is also hard but may be limited to a small pea sized area readily palpated at rectal examination. These conditions should be ruled out, if possible, before treatment is undertaken. A hard nodule in the prostate may require surgical perineal exposure with biopsy to confirm the diagnosis.

TREATMENT

Acute Prostatitis.—The treatment of acute prostatitis is by heat and protection from trauma, and that of subacute and chronic prostatitis by prostatic massage. The sulfonamides are often helpful in either condition but cannot be relied on to the exclusion of local treatment.

Acute prostatitis, whatever the cause, is best treated by complete bed rest for all febrile cases and the avoidance of foods which irritate the urinary tract. Sexual excitation should be avoided and all local treatment, such as urethral or bladder irrigations and rectal manipulation, should be discontinued. Heat is beneficial and may be obtained by hot sitz baths, by the application of heat directly to the prostate, by rectal irrigations or by electric prostatic heaters or diathermy. The Bransford Lewis electric device has given satisfactory results. Herring[9] advocates diathermy with proper orificial electrodes as the method which will obtain the greatest elevation of local temperature to the prostate. The bowels should be kept well open to avoid the pressure of a hard stool against the prostate. Only the most gentle palpation should be done to diagnose the development of a prostatic abscess. The sulfonamides are usually very effective in relieving acute prostatitis. Sulfathiazole, if tolerated, usually is most effective when given in 1 Gm. doses every four hours, together with sufficient alkalis, such as sodium bicarbonate. The urinary output should be measured and maintained at a minimum of 1,500 cc. daily. Sulfonamide medication should rarely be given for more than ten days, and blood studies should be made if prolonged treatment becomes necessary. Following the subsidence of acute symptoms, local treatment may be carefully instituted.

Chronic Prostatitis.—The treatment of chronic prostatitis revolves around the principle of establishing adequate drainage of the infected prostatic ducts. In some instances this is readily accomplished; in others it is difficult to attain, while in cases presenting pronounced sclerotic changes the establishment of drainage of all the infected areas may be impossible with any type of local treatment.

Local Treatment.—Once the diagnosis of chronic prostatitis has been established, massage of the prostate by the rectum is the most important single measure to be employed in its treatment. Although massage of an infected area may seem unphysiologic, urologists have achieved considerable success in the systematic treatment of these infections. This method of treatment is universally adopted by all urologists, yet some difference of opinion exists as to the frequency with which such massage should be carried out. As a rule we massage the prostate twice a week, and as the amount of pus diminishes the treatments are given less frequently.

The first object of prostatic massage is to increase the blood supply to the prostate and in this way aid in carrying away infection and stimulating absorption. The second purpose is to evacuate pus, bacteria and

9. Herring, J. B.: Heat Producing Appliances: Their Comparative Value in the Treatment of Prostatic Infection, California & West. Med. 45:140 (Aug.) 1936.

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débris from the prostatic ducts. Too frequent or too vigorous massages may defeat these purposes and may even produce an acute infection in the prostate or epididymides.

Some urologists prefer to massage the seminal vesicles and prostate before the patient voids his urine, after which the urine flushes the prostatic fluid from the urethra. Others instil an antiseptic solution into the bladder and posterior urethra after prostatic massage with the expectation that some of the solution may find its way into the emptied prostatic ducts. Still others instil an antiseptic solution into the bladder through a catheter before massaging the prostate, hoping thereby to prevent the expressed infected material from infecting the bladder or urethra. Although each method may have some advantage in certain instances, voiding after massage is satisfactory in most cases.

Massage of both the seminal vesicles and the prostate should always be performed together. With the patient kneeling in the knee-chest position, the gloved index finger, well lubricated, is gently and slowly inserted into the rectum as far as possible. Pressure is begun above the prostate on one side as the finger is withdrawn to the prostate. This is repeated several times and followed by the same procedure over the other vesicle. The finger is then brought down to the prostate and several strokes are made over the gland on either side from the uppermost part of the prostate downward and toward the midline. The massage is concluded by several strokes over the midline to express the fluid from the main ducts into the urethra. The prostatic fluid appears at the urethral meatus and is collected on a glass slide for examination. While gentleness is imperative during the first few massages, more firm pressure may be required in those cases which fail to respond to treatment.

The next most important element in the local treatment of chronic prostatitis is the search for and treatment of urethral stricture. This is particularly necessary if symptoms of a chronic urethritis are present. The great frequency with which prostatitis is associated with urethral stricture should lead one to search for both lesions in every patient. Often the treatment of either the urethral stricture or the prostatic infection is continued without searching for its associated lesion. Urethral dilation is never undertaken in an acute urethritis, but in the presence of a few shreds and pus cells in the urine the passage of sounds is very beneficial. Even when a definite stricture cannot be found dilations will serve to promote better drainage from the prostatic ducts. It is preferable to pass but one sound at a single treatment and not repeat the procedure more than once a week. Too enthusiastic treatment may produce complications and retard the favorable progress of the disease. If care is used in the passage of urethral instruments, any subsequent increase in symptoms may be considered to result from the activating of a dormant infection in the urethra or prostate and not to be caused by the passage of a sterile instrument into the bladder. Increase in the urethral discharge may follow instrumentation of the urethra, or chills, fever and sweats may supervene from stirring up a smoldering infection in the genital tract.

The value of urethral dilations is commonly seen in chronic prostatic infections with symptoms of posterior urethritis. Recently a patient had been treated by prostatic massage twice weekly for six weeks. His symptoms failed to subside and he was relieved only after the passage of sounds. Furthermore, his prostatic infection began to improve more promptly after his urethral dilations.

Many methods have been advocated for applying heat to chronic prostatic infections. When symptoms are severe, considerable relief may be obtained from local heat. An electric pad or hot water bottle applied to the perineum is helpful. Hot rectal douches are advocated by some but are rarely required in chronic infections of the prostate. Various prostatic heaters and electric devices have their advocates and are helpful in some cases. However, Herring [9] has shown that most of these commonly used methods fail to produce heat in the prostate. Although symptoms are frequently improved by the application of local heat, the actual benefit to an infected prostate is problematic.

The use of strong solutions and astringents has fallen into disrepute. Vaccines have seldom, if ever, added anything of value to the treatment of these cases.

The treatment of chronic prostatitis by intraprostatic injections has been advocated by Grant [10] in recent years. The prostate is injected with a needle inserted through the perineum and guided by a finger in the rectum. Various antiseptic and sclerosing solutions have been used with reported success. However, O'Conor [11] in an experimental study showed that any solution thus injected produced a sclerosis and left infected areas in the prostate with their normal drainage ducts occluded. This method of treatment also has few advocates.

The use of the sulfonamides has been helpful in eradicating the infection from the prostate in certain cases. When fibrosis is present within the prostate, any blood borne medication, such as the sulfonamides, will likely prove to be of little if any benefit. It is my practice to give sulfathiazole (1 Gm. four times daily for ten days) in these cases while prostatic massage is being carried out. If no benefit results in that time, it will rarely be helpful to continue the medication. I believe it is also desirable to administer one of the sulfonamides for twenty-four hours before and after urethral dilations. Whether this benefits the local infection is doubtful, but it should reduce the incidence of epididymitis. Actually, epididymitis from prostatic and urethral infections is becoming rare.

Other complications in the urinary tract, besides urethral stricture, may prevent one from obtaining a satisfactory response from local treatment to the prostate. A narrow meatus demands a meatotomy so that adequate urethral dilation may be carried out. Urethroscopic examination may reveal local infected crypts along the urethra which may cause urinary symptoms with shreds and pus in the urine. Polyps or granulation tissue are frequently found in the posterior urethra. Prostatic calculi may be present and unsuspected from rectal palpation and may require x-ray examination for their detection. Fibrosis, or even a prostatic bar, may interfere with adequate drainage from the prostatic ducts. A superimposed hyperplasia of the prostate may act in a similar manner. Tuberculosis, diabetes or syphilis may prevent a favorable response

10. Grant, Owsley: Treatment of Prostatitis by Injection, J. Urol. **29**: 749-753 (June) 1933.
11. O'Conor, V. J., and Ladd, R. L.: Intraprostatic Injections, J. A. M. A. **107**: 1185-1188 (Oct. 10) 1936.

to local treatment. Finally, any infection in the kidneys, ureter or bladder may reinfect the prostate, so that local treatment will not suffice to cure the prostatic infection. While it is true that most of these infections are readily suspected from pus in the second or third glass of voided urine, the infection may be so mild as to escape the examiner's attention unless a careful microscopic study of each glass of voided urine is performed. Renal symptoms are frequently entirely lacking. Pyelonephritis may occur intermittently in such a mild form as to escape notice by the patient or physician, yet enough bacteria may be excreted in the urine to reinfect the prostate. Such bacteria may even be excreted without the presence of pus in the urine, and stains or cultures of the urine are necessary for their detection. Their intermittent excretion may require careful study to evaluate their significance. When such doubt exists a complete urologic study is indicated.

The prostate may become infected from a distant focus of infection. Cabot [12] believes that 95 per cent of such cases are secondary to infections in the teeth and tonsils. Acute upper respiratory or intestinal infections may also produce a prostatic infection. If the original focus is discovered and removed, the prostatic infection will then become the primary focus of infection; but if the prostatic infection is treated, without removing the original focus, the response to treatment will be slow and recurrences likely. In treating such cases, the elimination of the original focus, followed by adequate treatment of the prostate, is indicated.

Severe local and distant reactions may occur following massage of a prostate which is the seat of a focal infective prostatitis. When, following prostatic massage, an exacerbation of symptoms occurs in a case of arthritis, iritis, neuritis and the like, it is suggestive evidence that the prostatic infection is responsible for the distant lesion. Very gentle massage should be carried out for the first few treatments, since vigorous treatment may occasion such a severe general and focal reaction that irreparable damage may result. These reactions are probably due to specific toxins forced into the blood of a patient already sensitive to them.

Chronic prostatitis is frequently present in patients presenting symptoms of sexual dysfunction. The role that this infection plays in the production of these symptoms is not thoroughly established. Certainly treatment of such infections is followed by improvement in symptoms in some cases, while in others there fails to be any response. The complexity of symptoms and the multitude of causes for such disturbances call for a thorough study of the individual case and the institution of appropriate treatment. When a diseased prostate is discovered, it should be treated in order to eliminate at least one factor in the production of sexual symptoms. Glandular therapy, encouragement and psychotherapy are other forms of treatment which may be beneficial.

General Treatment.—Patients with chronic prostatitis are usually urged to avoid highly seasoned foods, spices and strong alcoholic drinks, since these may irritate the urinary tract. I have not been convinced of the necessity for such restrictions except for moderation in alcoholic beverages. The patient should be urged to drink substantial amounts of fluids. The bowels should move at least once a day to prevent congestion around the prostate from impacted fecal contents.

Advice concerning sexual relations should depend on the severity of the infection. It is often wise to avoid sexual excitement when symptoms are moderately acute, yet regular sexual habits should be urged when the symptoms have begun to respond to treatment. Irregular sexual practices and overindulgence should be avoided. Massage may take the place of sexual hygiene in the early stages of treatment, but is at best a poor substitute for it. The quantity of prostatic fluid expressed by massage is much less than is contained in a normal ejaculate. Normal intercourse should aid in the treatment of nonspecific prostatitis and should be permitted while massage is being carried out.

The sulfonamides are helpful in the treatment of certain cases of chronic prostatitis but should not be used to the exclusion of local treatment. Prolonged use of these drugs will not aid in the treatment and may prevent a normal response from being obtained by massage. Recently a patient had been taking sulfonamides for two months and his symptoms and prostatic secretion were becoming progressively worse. His blood count showed 3,800,000 red blood cells and 3,700 white blood cells with 70 per cent lymphocytes. Discontinuance of the drug caused a prompt return of his blood count to normal and subsequent improvement in his infection.

PROGNOSIS

The response to treatment in chronic prostatitis and seminal vesiculitis may be slow, and the patience of both the patient and the physician may be taxed to the utmost. Persistent massage may be required for long periods but should be spaced with vacations from treatment. The goal should be the elimination of pus from the prostatic strippings. In general, the outlook in the treatment of these patients is good, provided the cooperation of the patient can be maintained. It is better to discuss the possibility of prolonged treatment with the patient at the outset so that discouragement may be avoided at a later period.

The prognosis in chronic prostatitis depends largely on the cause and the degree to which the infection has progressed. If the cause can be ascertained and corrected and the prostate is soft and boggy, the outlook should be good. If the origin of the infection is vague and the infection has progressed to the formation of considerable scar tissue in the prostate or to the development of a fibrous bar or prostatic calculi, conservative treatment will likely not eliminate the infection.

One should constantly seek the origin of the infection, whether it is from an acute local infection or a distant focus, since elimination of such an area materially alters the prognosis. In many instances this is difficult to ascertain, and study of the patient may be required for some time to arrive at a conclusion. In some cases careful, diligent search for the cause may be unavailing. Repeated urine examinations may lead one to a suspected source of infection.

If the prostate has been the seat of prolonged inflammatory changes, it will probably not return to normal. However, treatment and periodic observations may keep the infection to a minimum and prevent the recurrence of symptoms. When careful, complete search for complications fails to disclose any contributing factor to the cause or continuance of a prostatic infection, and

12. Cabot, Hugh: Modern Urology, Philadelphia, Lea & Febiger, 1936, vol. 1.

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when repeated courses of prostatic massage fail to eliminate pus cells from the strippings completely and when definite symptoms referable to the prostate are absent, local treatment should be discontinued. If sufficient damage to the prostate has occurred, such as the production of fibrosis at the vesical orifice or symptom producing prostatic calculi, surgery may be indicated.

In focal infective prostatitis, the prognosis depends mainly on the finding and elimination of the original focus of infection, following which local treatment to the prostate should clear up the infection in most instances.

Brunet and his associates[7] recently reported the results of treatment in 100 cases of chronic prostatitis. In 60 cases there was complete relief, with return to normal of the prostatic secretion. In another 24 the symptoms were relieved but the prostatic strippings still contained some pus. In the remaining 16 clinical improvement was not noted, but these patients all complained of some sexual dysfunction. These were not further analyzed, but at least this percentage of cures should be obtained.

The outlook for patients with sexual dysfunction is difficult to evaluate. A multitude of factors may be responsible for the symptoms complained of by these patients. Although chronic prostatitis may be a factor, there are almost invariably other factors of even greater importance to evaluate and treat. Among these may be mentioned hypotension, low metabolic rate and vitamin deficiency. Psychotherapy is frequently indicated, and this treatment may often be intelligently performed by the urologist.

SUMMARY

1. Chronic prostatic infections are of common occurrence and by far the greatest percentage of cases are not caused by gonorrhea. Infection in the prostate occurs more frequently from a distant focus of infection or from some nonspecific infection in the urinary tract. Lack of sexual hygiene may be a predisposing factor in the development of a prostatic infection.

2. Urinary and genital symptoms frequently attract attention to the prostate as the source of the infection. In many instances chronic prostatitis presents no local or urinary symptoms, and attention is not attracted to the prostate. A careful prostatic examination is required to determine that the prostate is a focus of infection for symptoms elsewhere in the body.

3. The diagnosis of chronic prostatitis is made by rectal palpation and the finding of pus in the expressed prostatic secretion by microscopic examination.

4. The origin of the infection should be carefully sought for and eliminated. Prostatic massage with general hygiene, together with sulfonamide therapy, will usually eradicate the infection, although prolonged treatment may be required.

5. Complications in the urinary tract are common and should also be treated to obtain the best results from local treatment to the prostate. Among the most frequent are urethral stricture, posterior urethritis and mild chronic renal infection.

6. Infection of the prostate is so common and the prostate is so often the seat of a focus of infection that routine examination of this gland should be undertaken as frequently as that of the teeth and tonsils.

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INDICATIONS FOR VISUAL EXAMINATION OF LOWER URINARY TRACT

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Those of the profession who have personally undergone what, in the vernacular of our trade, is termed a "cystoscopic examination," appreciate that, like the holy bonds of matrimony, it is not something to be undertaken lightly. The question is too frequently asked "Can my patient stand a cystoscopic examination?" because it is not appreciated that when such an examination is made by a trained, skilful and experienced operator, even as an office procedure, it can give valuable information obtainable in no other way and without serious discomfort or untoward aftermath. If attempted by the untrained and heavy handed, the after-effects may be slow in disappearing and the experience long remembered with horror. The narratives of patients who have undergone this modern form of torture are so distressing that after a "referring doctor" has listened to one or two he naturally becomes reluctant to subject others to such an examination unless the indications render the procedure imperative. This is regrettable, because valuable information regarding developing pathologic changes may be unnecessarily delayed. Because of this hesitancy to refer patients for a visual examination of their lower urinary tract, it is important for the general practitioner to be familiar not only with the indications that warrant cystoscopy but to know clinical conditions in which visual examination of the lower urinary tract is not only unnecessary but absolutely contraindicated. For under certain conditions the passage of a rigid instrument, such as a cystoscope, into the lower urinary tract might result in trauma and subsequent infection of serious moment.

The examiner who expects all his patients to fit a single cystoscope is to be censured. Such expectation might have been excusable a generation ago, but today, with ample equipment available, there is no excuse for one to endeavor to pass a large caliber instrument through a small caliber urethra. The dilation of urethras by sounds in order to make them fit cystoscopes, instead of using cystoscopes of suitable size, has caused much of the dread of this form of clinical investigation. Moreover, different cystoscopes are designed for different types of work; and the examiner who is not capable of utilizing the proper instrument handicaps himself and may, by being thus handicapped, fail to obtain the information most desired. The cystoscope is a highly specialized instrument; it is not a "combination tool" of general utility. The examiner who has limited himself to the use of only a single type of cystoscope not alone handicaps his ability properly to observe but, by attempting to use instruments unsuited to their purpose, causes trauma through the unnecessary prolongation of the procedure. Such injury is not alone painful at the time of its infliction but may result in prolonged suffering. An examiner who compels his patient to lie on the table, with a rigid instrument like a cystoscope in his urethra, while the roentgenologist gets him into position for pyelography, belongs to the horse and buggy era of his

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specialty. As soon as ureteral catheters are passed, the cystoscope should be withdrawn immediately. The soft ureteral catheters traversing the urethra will cause no trauma, while a rigid steel tube left in any longer than is absolutely necessary simply prolongs injury and discomfort. The shadow of a cystoscope in the bladder on an x-ray film is the trademark of an inefficient examiner.

Exposure of the genitalia during visualization of the lower urinary tract is an embarrassment to which the patient should not be subjected. It may be avoided by proper and simple draping as follows: The female patient is placed on the table in the lithotomy position; her legs are covered by leggings which reach to the thighs, and the external genitalia are cleansed with "green soap" and warm water and wiped dry. Two sterile towels are draped over the inner surface of the thighs so as to overlap slightly at the vulva, and a third towel is placed crosswise on the lower part of the abdomen. The nurse separates the labia with the edges of the overlapping towels just long enough to permit the introduction of the instrument, after which the towels naturally fall together.

THE ANESTHETIC

To reduce the discomfort of cystoscopy, the choice of anesthesia is naturally of importance. To carry out the procedure painlessly insures better cooperation on the part of the patient and assists in the acquisition of reliable information. It is comparatively easy to examine the interior of the bladder successfully when the patient is relaxed and free from pain. To do so with a struggling, straining, suffering person is wellnigh impossible. In the female patient a cotton applicator dipped in 10 per cent solution of cocaine and placed in the urethra for five or ten minutes, before the passage of instruments, has become a routine procedure. Yet in so simple a procedure—usually left to a nurse—differences in the results may be obtained. If the swab is too large for the urethral meatus and not lubricated, its vigorous insertion by a careless nurse may cause acute discomfort. To carry out the procedure properly, topical application of some of the 10 per cent solution should first be applied to the meatus; then the swab, well lubricated as well as saturated with the 10 per cent cocaine solution, should be gently inserted for a short distance into the urethra. When a few minutes have elapsed a second swab should be inserted still farther. If this procedure is followed out, little discomfort will result when the cystoscope is passed. If, in addition, a few cubic centimeters of one of the cocaine derivatives is injected into the bladder in order to anesthetize the trigone, the entire procedure loses most of its discomfort. For such use procaine hydrochloride is useless. The fact that it has no effect on mucous surfaces is frequently overlooked. The dangers associated with the use of cocaine are apt to be exaggerated, but they should not be disregarded. It is well to remember that its anesthetic action, when applied to mucous surfaces, is greater than any of its allies. Its rapid deterioration in solution and the formatioin of toxic substances make the injection of any stock solution into as highly absorbable an area as the posterior urethra highly dangerous. When cocaine is used, it should therefore be made up fresh for each patient. The dissolving of two 2¼ grain (0.15 Gm.) tablets in an ounce (30 cc.) of sterile water immediately before injection into the male urethra has proved in many thousands of cases to produce the most efficient local anesthetic. When this is injected, any excessive amount of hydrostatic pressure or the too rapid injection of the solution should be assiduously avoided. As soon as the urethra is well dilated a penis clamp is applied, after which the meatus, as in the female, may be treated with a swab dipped in a 10 per cent solution. When the urethra has been recently traumatized, as by the passage of sounds or other instruments, and in all cases in which there is any question of idiosyncrasy for the drug, one of the cocaine allies may be used. These have the advantage over cocaine that they do not lose their anesthetic power on boiling and so are easier to sterilize. They do not deteriorate and become toxic when left in stock solution and are therefore more readily available. The most frequently used of such solutions at present are 2 per cent solution of Intracaine and a 4 per cent solution of metycaine. Diathane is also very efficient as a local anesthetic, but immediately after injection it produces a burning sensation which is most annoying.

When excessive irritability of the urethra and bladder mucosa has not resulted from either acute or chronic infections, as in tuberculosis, such anesthetics will render skilled examinations of the lower urinary tract practically painless. If the office affords facilities for recovery from complete narcosis, of course no anesthetic is as satisfactory for such work as pentothal sodium. If it is administered by slow and constant intravenous injection in just sufficient amount to keep the patient unconscious, his recovery from the narcosis may be so rapid as to permit him to leave the examining table as well as the office as an ambulatory patient. In such a case it is imperative to have relatives or friends accompany him. The fortifying of pentothal anesthesia by pentobarbital sodium or morphine is contraindicated. It only prolongs the time the patient is incapacitated and adds nothing to the anesthesia. Moreover, by prolonging the patient's inability to cooperate it makes the taking of clear pyelograms difficult.

Because of the disadvantages of having the patient unconscious and unable to cooperate, some urologists prefer to use caudal anesthesia in small enough doses so that the patient is ambulatory after a short period of recovery. The inability of some patients to regain the full use of their lower extremities for a more extended period is the chief objection to this type of anesthesia, as is the occasional occurrence of a rather sharp drop in blood pressure following its application. For the greater number of male patients instillation anesthesia as described is the most generally employed, not because it is the most efficient, but because it is the most rapid and easy of application.

PRESENCE OF INFECTION

A microscopic examination of the catheterized urine in the female furnishes the chief indication for or against visual examination of the lower urinary tract. If the urine is highly infected, containing considerable numbers of pus cells, it should be stained by the Gram method as a matter of routine to determine what types of organisms are present. Nothing is so likely to cause a patient to be severely ill with chills and high fever as cystoscopy in the presence of infection, especially if it is acute and trauma results from the passage of instruments or the overdistention of the bladder or renal pelves. Therefore, before instrumental examination is undertaken in either sex the type of infecting organism should be ascertained by stain and culture and every

effort made to render the urine bacteriostatic, at least to the specific organisms, before proceeding to investigate the damage they have caused. The general habit of subjecting patients to cystoscopy before undertaking to render their urine bactericidal explains to a large extent the dread of the examination so many have developed because of its delayed febrile reactions.

If the history and physical findings as well as the examination of the urine indicate that one is dealing with a tuberculous infection, the experienced urologist will realize at once that the examination will probably be exceedingly painful unless precautions are taken. Few inflammations are more painful than a bladder mucosa irritated by tuberculous toxins. With such patients it is always preferable to employ the most efficient anesthesia. This is done, not alone to lessen the suffering of the patient, but to aid the examination. To permit satisfactory examination of a diseased bladder, its owner must be free of pain. The attempts to examine inflamed and infected lower urinary tracts without adequate anesthesia is responsible for more mistaken diagnoses than any other single factor.

To infect a normal urinary tract it is necessary to traumatize it. Experiments have shown that its exposure to bacteria without trauma will not cause infection. One is inclined to conclude that the passage of instruments is the most common cause of trauma. True, it is a common cause; it should be avoided by first filling the urethra with a suitable lubricant or lubricating the instrument most thoroughly and passing it with great care and gentleness. A more frequent cause of trauma is the overdistention of the bladder resulting in spasm. The instrument may be passed with skill, but when the bladder is filled beyond comfort trauma is produced, which in the presence of infection will be followed inevitably by fever and chills. When the examiner has discovered a pathologic process in the urinary tract, nothing but added trauma is gained by long continued gazing at it. Once the lesion is observed, the examination is concluded as far as diagnosis is concerned. Such observation should require at the most but a few minutes. The report of cystoscopy consuming from fifteen to thirty minutes' duration reflects the inexperience of the examiner and in no way indicates his thoroughness or efficiency.

X-RAY EXAMINATION

It is being more and more generally recognized that many pathologic conditions of the lower urinary tract formerly believed to require visualization for their proper examination can now be as accurately diagnosed by other means. I refer particularly to prostatic obstruction. All cystoscopic instruments are rigid instruments, and all enlargements of the prostate render the passage of such rigid instruments a possible source of trauma. An x-ray film of the lower urinary tract will determine the presence or absence of stones in the bladder or prostate. The injection of the bladder with air or an opaque medium will betray the presence or absence of diverticula and the extent of trabeculation the prostatic obstruction has produced. The examiner's finger in the rectum, in most cases, will reveal the type of enlargement and its gross extent. A soft rubber catheter will determine the amount of residual urine present. There thus remains little or nothing to be added from cystoscopy. The urologist who is dependent on the cystoscope to determine what method of treatment is best to employ for the relief of prostatic obstruction is apt to increase the obstruction by his instrumentation so much that complete urinary retention frequently results. He is then faced with undertaking surgical measures in an area needlessly injured and infected and thus increasing the risk of postoperative febrile reaction, if not more serious complications. When residual urine is present, only trauma is necessary to add secondary infection, an unhappy prelude to any form of surgery. Probably in no condition has instrumentation been more painful and uselessly employed or yielded less worthwhile information than in routine cystoscopy of the elderly male with urinary obstruction the result of prostatic hypertrophy.

SUPPLEMENTARY INFORMATION

With the advent of intravenous urography, it seemed for a time that the need of instrumental examinations, particularly the passage of ureteral catheters, would be greatly curtailed. This has not proved to be the case. The unsuspected pathologic condition that has been revealed by the general use of intravenous pyelography has made evident the need for much supplementary information. This can be obtained only by the ureteral catheterization and the visual examination of the lower urinary tract. To attempt to diagnose and undertake treatment of a pathologic condition in the urinary tract simply by evidence obtained from intravenous urography is a responsibility that no wise or conscientious urologist, much less a general practitioner, should care to assume. Unless all possible information from all possible sources is at hand, both diagnosis and treatment are of doubtful validity.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BALLENGER, MCDONALD AND COLEMAN, DRS. MCKIM, SMITH AND BUSH, DR. HENLINE AND DR. BUMPUS

DR. MEREDITH F. CAMPBELL, New York: It was gratifying that Drs. Ballenger, McDonald and Coleman in their discussion of the sulfonamide treatment of gonorrhea of urethritis did not belabor us with considerations of the sulfonamide blood level. It was observed in the Urology Department of the College Clinic of New York University College of Medicine that practically all patients with gonococcic infection did as well on 2 Gm. as on 4 Gm. a day of a sulfonamide compound. Subsequent experience continues to bear this out. They emphasized the importance of the small external meatus in the genesis and perpetuation of a chronic urethral discharge, which may or may not be bacterial. A small meatus, with or without faulty sexual hygiene, will engender prostatitis, the clinical manifestations of which usually cause the diagnosis of nongonorrheal or nonspecific urethritis to be made. I was especially pleased that the authors placed a satisfactory meatal caliber of the normal adult at 26 F. rather than smaller. The abnormally small meatus in the young is generally so congenitally and in most instances is overlooked unless complicating ulceration, with or without incrustation and scab formation and hematuria, attracts clinical attention. Wide meatotomy and the maintenance of a wide open orifice rather than salves and ointments is the indicated treatment. Following meatotomy it is my practice periodically and progressively to dilate the incised orifice with steel sounds rather than to rely on domestic improvisations of the patient. Our experience in the treatment of well over a thousand enuretic children subscribes to the authors' statements regarding this condition. Granted that the syndrome commonly designated clinically as enuresis is a functional problem in 95 per cent of children, is generally directed against the mother and in most instances responds to psychotherapy, gold stars and the like, in all cases not responding in three to four months of intensive medical treatment or psychotherapy a thorough urologic examination should be carried out. About 1 in 7 of these children cannot empty his bladder completely,

that is, there is residual urine, and in many others grave urographies will be revealed. Although strictly this is not enuresis, unfortunately the fact remains that today nearly all children with night or day wetting are persistently and benignly treated for enuresis and without adequate urologic study. In females a tight urethra with urethrotrigonitis is the commonest lesion we have found; in males, inflammatory and obstructive lesions of the prostatic canal and bladder outlet rank first. Fortunately, most of these rapidly respond to urethral dilation, with or without local chemotherapy. Yet urethral valves of the prostatic canal, contracture of the vesical outlet and hypertrophy of the verumontanum, for example, can be promptly eradicated by transurethral electroresection with miniature instruments. Study of a series of enuretic children will reveal nearly, if not all, of the deep urethral lesions which Drs. Ballenger, McDonald and Coleman discuss in the latter part of their paper. Enuresis may be merely an annoying condition and a nuisance, but it may also reflect a grave urologic disease of vital importance to the child.

Dr. Edgar G. Ballenger, Atlanta, Ga.: The remarkable technical perfection of modern urologic instruments is not an unmixed blessing. The very perfection of the gadgets often leads to their ill advised use. Dr. Bumpus has directed our attention to the precipitate use of cystoscopic studies before the employment of milder urologic measures which perhaps might make cystoscopy unnecessary. Moreover, he emphasizes the importance of the preliminary administration of urinary antiseptics to minimize the stormy reactions which may follow cystoscopic investigations. It is especially against the routine cystoscopic study of the prostate and prostatic urethra of elderly men that I wish to join his protest. In the majority of instances in which urinary obstruction is the chief symptom, adequate facts may be obtained without cystoscopy. The history of a gradually weakening urinary stream, undue frequency in voiding and nocturia especially during the latter part of the night and the presence of residual urine in an elderly man strongly suggest the existence of vesical neck obstruction. By rectal palpation the size and consistency of the prostate gland is easily ascertained. An x-ray film will show whether or not stones are present and a cystogram will demonstrate the amount of intravesical protrusion of the prostate as well as diverticula if present. Beyond the information gained from these studies little else is required except a general physical examination, urinalysis, renal functional tests and blood examinations. Cystoscopy when the prostate is hypertrophied is likely to bring on acute retention even in uninfected patients. In such patients the disturbing reactions are often more severe than a transurethral resection of the obstructing prostate. Just as we usually regard the enlarged prostate as a contraindication for cystoscopy, so we think that a cystoscopic study is clearly indicated if the patient is having difficulty in voiding following resection; in such instances cystoscopy even several months or longer after resection may show minor abnormalities which are correctable by office procedures. These are not likely to be followed by disturbing reactions.

Dr. Thomas D. Moore, Memphis, Tenn.: There exists a widespread tendency to underestimate the importance of symptoms referable to the bladder in women when examination of the urine is negative. The line of least resistance is to attempt to explain such symptoms on the basis of "too much acid" or "pressure on the bladder" perhaps from malposition of the uterus or a fibromyoma, and thus all too often investigation of the urinary tract is limited to the analysis of a voided specimen of urine. As pointed out in the presentation of Drs. McKim, Smith and Rush, pathologic conditions involving the urethra, with particular reference to chronic inflammatory processes with or without the existence of urethral caruncle, predominate as etiologic factors in such complaints. An accurate estimate of the condition of the urethra is not at all a complicated procedure if an endoscopic view is obtained. Lesions involving the urethra may be easily overlooked with the average indirect vision cystoscope. It has been my experience that chronic nonspecific urethritis in women is often refractory to treatment, and in such cases palpation of the urethra with a sound in place will often reveal small shotlike infiltrations due to chronic inflammatory changes in the periurethral glands. Massaging the urethra lightly over the sound, preferably after the instillation of a mild antiseptic, may hasten recovery. Gradual and gentle dilation of the urethra also has been of definite value and is attended by a minimum of trauma if a rubber covered Kollmann dilator is employed. Dilations given at intervals of ten days to two weeks may finally be carried to 35 to 40 F. The authors do not mention allergic states involving the bladder or urethra. The possibility of sensitivity, especially to certain foods, and attendant symptoms referable to the bladder should be kept in mind; it is not a rare occurrence. Overindulgence in soft drinks containing caffeine can be a cause of dysuria. For example, a young woman was examined because of frequency and dysuria of several months' duration associated with nycturia of six to eight times. The frequency of urination was of such degree as to arouse a suspicion of urinary tuberculosis. The analysis of a catheterized specimen was reported negative. Cystourethroscopic examination was also negative. It was discovered that this patient was consuming six to ten coca-colas daily. Upon discontinuing this beverage the symptoms promptly disappeared and there has been no recurrence to date. Probably all will agree that chronic interstitial cystitis, or panmural fibrosis, is the most stubborn condition to eradicate of all the entities mentioned in the foregoing article. Patients who do not respond to hydraulic distention, treatment with silver nitrate, or light electrocoagulation, and who have sufficiently distressing symptoms, should be considered possible candidates for presacral neurectomy. It has been found that prompt and lasting relief may follow this operation.

Dr. Harry R. Trattner, Cleveland: From a study of the prostatic urethra in postmortem specimens and by cystourethroscopy some factors involved in drainage from the prostate gland and seminal vesicles can be appreciated. Since many of the ductal orifices are so small as to be invisible to the naked eye, and since many of the openings are situated in the prostatic sinus close to the base of the verumontanum while the ejaculatory ducts open through the body of the veru, it is easy to understand the possibilities of congestion, edema, inflammation or tumor in producing partial or complete occlusion of these ducts. The employment of the sulfonamide drugs in acute or subacute specific or nonspecific urethritis has often eradicated the infection before an extension to the prostate and seminal vesicles has occurred. In this manner the sulfonamides have greatly reduced the incidence of prostatitis and seminal vesiculitis. In other instances urinary tract infections are sometimes eradicated by their use, thereby eliminating a focus of infection. Though the action of these drugs may continue locally in some instances of acute and subacute infection of the prostate and seminal vesicles, their value diminishes greatly in the treatment of chronic infection of these organs. Here their effectiveness becomes abruptly limited to occasional temporary amelioration during an acute exacerbation of a chronic infection. Though a majority of the cases of chronic prostatitis can be greatly benefited or resolved by prostatic massage, removal of foci of infection, dilation when urethral stricture is present and general hygienic measures as described by Dr. Henline, yet there remain those cases that defy response. Intractable chronic prostatitis can be classified into two groups: (1) where there is involvement of the prostatic urethra, prostate gland or vesical neck in a pathologic process requiring removal by surgical means (usually transurethral resection) before adequate drainage from the prostate and seminal vesicles can be established. In 1933 Davis demonstrated this type of pathologic condition and therewith the good results in some cases of chronic prostatitis following such therapy; (2) cases in which local abnormalities cannot be discovered. Here additional information may be necessary concerning the pathologic anatomy of the prostate. Access to the parenchyma of the prostate for the purpose of roentgenography and medication of tubuloalveolar units of the gland seemed desirable. For this purpose a special catheter was devised and described in the December 1942 number of the *Journal of Urology*. Though this method of direct attack has not resulted in benefit in all cases of chronic prostatitis falling in this category, a majority responded by a continued reduction in the leukocytic content of the prostatic secretion in some, while in others there was a continued disappearance of leukocytes in this secretion. In some cases the prostatogram brought to light distortion of architecture of the internal anatomy of the prostate, such as tubuloalveolar ectasia, while in some,

cystic cavities were found within the gland. In others a concomitant pathologic condition, such as diverticulum in the posterior urethra, was found. In regard to the occurrence of epididymitis following the use of the partition catheter in chronic prostatitis, this complication took place in 2 of 80 cases in which this technic was employed. The seminal vesicle was filled with opaque solution in only 1 case of 80. Thus I have been able to confirm Lowsley's observation that the ejaculatory ducts are closed with a rise of pressure within the prostatic urethra in a manner similar to compression of the intravesical portion of the ureters when the bladder is distended. The incidence of epididymitis should be minimal or negligible provided the seminal vesicles are free of infection. The catheter technic is indicated in cases of chronic prostatitis only when more conservative measures have failed over a reasonable period of time.

DR. ROY B. HENLINE, New York: I should like to stress the fact that chronic prostatitis may exist in the presence of normally voided urine and without any urinary symptoms. A multitude of vague symptoms in the lower abdomen, back or thighs may be caused by a chronically infected prostate. In seeking the cause of these symptoms an examination is not complete without a careful palpation of the prostate and a microscopic examination of its strippings. The most important single consideration in treating chronic prostatitis is the recognition and elimination of the systemic focus of infection. Intelligent application of prostatic massage will benefit most patients but, if carried out too frequently or for prolonged periods, may cause unfavorable reactions. A thorough urologic study is indicated of those patients who either do not respond to local treatment or who have recurring infections in the prostate. One of the most commonly overlooked causes for the failure of chronic prostatitis to respond to prostatic massage is a small urethral meatus. In such cases meatotomy becomes essential. Subsequent adequate urethral dilations with sounds at ten to fourteen day intervals will frequently benefit the prostatic infection. There is no standard treatment for chronic prostatitis which can be applied to all patients with equal benefit. Intelligent treatment of these patients may require the cooperation of the urologist with specialists in other fields. Some patients respond to simple measures, while others may tax the ingenuity of the urologist to the utmost.

DR. JOHN L. EMMETT, Rochester, Minn.: Dr. Bumpus has presented a criticism of urologic procedure which is timely and should be taken to heart by every urologist. It is well for the physician to pause occasionally during his routine work and consider diagnostic procedures as they are interpreted by the patient's sensory nervous system. The goal in all good medical practice should be to employ sufficient diagnostic procedures to arrive at an accurate diagnosis. Fewer procedures than this are inadequate. More than this are not in the interest of the patient either physically or economically. As Dr. Bumpus has pointed out, many unnecessary cystoscopic examinations are performed. Less traumatizing examinations, such as plain roentgenograms, excretory urograms, two glass specimens of urine for microscopic examination, cultures and acid fast and gram stains of the urine, digital examination of the prostate gland through the rectum, microscopic examination of the prostatic secretion and careful examination of the external genitalia, will often yield sufficient information for satisfactory treatment. A trial course of chemotherapy for a week or ten days is often most helpful in deciding whether or not cystoscopic examination should be undertaken. The wise physician will employ cystoscopy only when it is definitely indicated; however, he will not allow himself to fall into diagnostic errors from "guessing" when cystoscopy is necessary to obtain pertinent information.

DR. H. C. BUMPUS JR., Pasadena, Calif.: Because it is one of the most exact of clinical specialties, an accurate urologic diagnosis can frequently be obtained by several different methods. It does not follow, however, that more than a single method need be employed. Once a diagnosis of a tuberculous infection in a kidney is confirmed by the finding of acid fast bacilli in the urine from it or an extensive hydronephrosis is discovered by withdrawal of its contents, it is not imperative to make a pyelogram as confirmatory proof of what is already a known fact, since unnecessary examination may add not alone to the cost but also to the risk of investigation. Miliary tuberculosis has followed pyelography, and septicemia has followed overdistention of a kidney pelvis. The finesse of the famous surgeon who was able to assure his patient that he did have a stone in his bladder by simply placing his hand on the pubis, after his colleagues had subjected the patient to the expense of x-ray examination and the pain of a cystoscopic examination, does have its points!

PINTA (MAL DEL PINTO, CARATE) IN CONTINENTAL UNITED STATES

REPORT OF THREE CASES WITH LATE MANIFESTATIONS AND REVIEW OF THE SALIENT FEATURES OF THE DISEASE

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Pinta, called also mal del pinto or carate, is a nonvenereal type of spirochetosis limited almost exclusively to the dark races. The initial lesion appears on the cutaneous surface at the exact site of entrance of the causative organism, Treponema carateum, after an incubation period of seven to twenty days. In five months to a year the secondary lesions, or pintids, appear. These are disseminated pink, red, slate blue, brown or black macules and plaques, grouped around the primary lesions. Pintids may resemble the lesions of psoriasis, syphilis, trichophytosis, lichen planus or eczema. They are associated with erythema and, in the form of the disease common in Cuba, with follicular keratosis and palmar and plantar keratoderma. In the terminal stage —the tertiary, or dyschromic, stage—achromic and hyperpigmented spots and atrophy of the skin are encountered. In this stage the complement fixation and precipitation reactions are strongly positive and adenopathy may be present. Hypertension, juxta-articular nodules, cardiovascular lesions and changes in the spinal fluid are other late manifestations.

Pinta has never before been reported in continental United States. However, as Fox and Pardo-Castello [1] have stated, there is no reason why it should be limited to any country or even to the tropics. In all probability there are in the southern part of the United States persons with pinta which has been diagnosed as vitiligo, postsyphilitic dyschromia or residual achromia secondary to various inflammatory dermatoses. The 3 patients who are the subjects of this report were born respectively in Canada, Louisiana and Alabama.

Pinta was considered a mycotic disease until 1926, when Menk [2] discovered that the Wassermann reactions of 74.6 per cent of his patients were strongly positive. He concluded that the disease was in some way related to an old spirochetosis. In 1927 González Herrejón [3] found that almost all of his patients with pinta had strongly positive Wassermann and Kahn reactions although they presented no evidence of syphilis. This startling discovery, together with the fact that the cutaneous lesions underwent rapid involution after

Technical assistance was given by Major Tibor Benedek, M. C., U. S. Army.
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1. Fox, Howard, and Pardo-Castello, V.: Personal communications to the author.

2. Menk, W.: The Percentages of Positive Wassermann Reactions Found Associated with Various Diseases, in Fifteenth Annual Report of the Medical Department of the United Fruit Company, New York, United Fruit Company, 1926.

3. González Herrejón, S., cited by Fox.[1]

intravenous therapy with arsenical compounds, gave support to the theory that pinta was a type of spirochetosis.

The strongly positive serologic reactions encountered led some clinicians to believe, despite the contention of Fox [4] to the contrary, that pinta was related to both frambesia and syphilis. Several investigators found additional evidence indicating a relationship between pinta and syphilis. Thonnard-Neumann, Camacho Moya and Brewster [5] and later Pardo-Castello and Ferrer [6] and Sáenz, Grau Triana and Alfonso Armenteros [7] observed cardiovascular lesions, such as aortitis, aneurysm, aortic regurgitation and enlargement of the heart. Sáenz, Grau Triana and Alfonso Armenteros discovered changes in the spinal fluid resembling those associated with cerebrospinal syphilis (an increased content of globulin, a syphilitic colloidal gold curve and positive Wassermann, Kahn and Meinicke reactions). Clinical manifestations of syphilis of the central nervous system were absent. In 1938 Grau Triana and Alfonso Armenteros discovered the causative spirochete in lymph from the cutaneous lesions, in the lymphatic glands and in the tissues. The discovery was confirmed two days later by Pardo-Castello. The organism was indistinguishable morphologically from the spirochete of frambesia and that of syphilis.

In 1939 all doubt as to the relationship of pinta to frambesia and to syphilis was dispelled when León y Blanco [8] published the results of his classic and heroic experiments on pinta in Mexico and Cuba. Pardo-Castello translated the reports and summarized them.

The experiments were performed on four different groups of patients, the first of which included León y Blanco himself. He gave himself and 17 Mexican volunteers intracutaneous inoculations of material from Mexican patients with typical pinta. Four Cuban subjects in Havana were inoculated with material from Mexican and Cuban patients.

León y Blanco proved that the achromic stage of Pinta, which to that time had been the only manifestation recognized, is in reality the tertiary, or late dyschromic, stage. He found that the initial lesion is always a closed papule that never ulcerates. It usually appears on the extremities, most often on the legs, but occasionally is found on the face or the neck. For several months this type of lesion remains the only manifestation of the disease, and several may be present at once.

After five months or more, signs of dissemination appear in the form of multiple macules or papules that grow and spread peripherally for several inches, just as do the initial lesions. In the course of several weeks circinate plaques are formed, the secondary lesions, which León y Blanco called pintids but which are popularly known in Mexico as empeines. These may be smooth or scaly. The initial lesions finally become part of the disseminated secondary manifestations and cannot be distinguished from them.

The lesions, which usually are superficial, are sometimes infiltrated, but they never ulcerate or produce a break in the epidermis. The earlier ones are faintly pink, but they soon darken according to the amount of pigment and the congestion in the affected skin. In white patients the lesions are pink, red or brown, while in the dark races they are purple, blue, slate colored or black. Scaly lesions may have a dusty, ashen appearance, and the scales are usually adherent and powdery. When the scales are large the patches resemble the lesions of psoriasis, trichophytosis, lichen planus or eczema. Groups of pintids coalesce to form larger plaques.

In some cases the lesions involve only a small area, and in others they cover the greater part of the cutaneous surface. Usually, however, they are found on the extremities and bony prominences, especially on areas not covered by clothing. After several months, when the pintids pass into the chronic stage, they tend to be symmetrically arranged, especially on the hands and feet. Old lesions have a tendency to show slight central involution, indicated by a lighter color or even achromia. The border then appears darker and advances on the normal skin, requiring several months or a year to reach a diameter of from 1 to 2 inches. They frequently have a well marginated and sometimes polycyclic border.

According to Pardo-Castello and Ferrer [6] the differentiation of pintids from the lesions of leprosy and other inflammatory dermatoses may be difficult. However, the presence of normal sensation for pain and temperature in pinta and the easy demonstration of T. carateum in the lesions distinguish the disease from leprosy.

During the secondary stage of the disease, which may last a year or longer, the Wassermann and Kahn reactions are positive in only 60 per cent of the cases. The general health is never affected. The spirochete is easily demonstrated by dark field examination in lymph extracted from the lesions. Discrete enlargement of the lymph nodes has been reported, and spirochetes have been recovered from them. Sáenz, Grau Triana and Alfonso Armenteros [7] reported superficial enlargement of the lymph nodes in the inguinal region, of the epitrochlea and of the biceps muscle.

The secondary stage lasts from several months to more than a year. Then the lesions become dyschromic, producing the clinical picture of the late form of the disease so well known in Ecuador, Colombia, Cuba, Mexico and Venezuela. The lesions are symmetrically arranged, usually on the extremities, and consist of alternating areas of depigmentation and hyperpigmentation. The resulting clinical picture is that of vitiligo. Cases in which there is symmetrical arrangement of dyschromic lesions on the face and trunk occur in all the countries mentioned except Cuba.

The pigmented lesions of the third stage are coffee color, slate blue or jet black according to the darkness of the normal skin. In white persons they are light brown. They may be localized on one extremity or on a hand and a foot on opposite sides. Follicular keratoses and areas of desquamation have been reported. The amount of desquamation varies in different persons and on different areas, but the scales are usually branny and adherent. Atrophy of the skin in the achromic areas may occur in patients whose disease is of long duration.

Pardo-Castello and Ferrer [6] reported involvement of the mucous membranes. One of their patients had a triangular area of hyperpigmentation on the dorsum of the tongue, and another had patches of stippled pigmentation on the inside of the cheeks and on the palate.

4. Fox, Howard: Mal del Pinto as Observed in Mexico: Its Relation to Carate, read at the eighth International Dermatological Congress, Copenhagen, 1930.
5. Thonnard-Neumann, E.; Camacho, Moya, J., and Brewster, K. C.: Is Carate (Pinta) a Dermatomycosis? in Nineteenth Annual Report of the Medical Department of the United Fruit Company, New York, United Fruit Company, 1930, pp. 101-106.
6. Pardo-Castello, V., and Ferrer, Ismael: Pinta; Mal del Pinta; Carate, Arch. Dermat. & Syph. 48:843 (May) 1942.
7. Sáenz, Braulio; Grau Triana, Juan, and Alfonso Armenteros, J.: Pinta in Cuba, Arch. Dermat. & Syph. 41:463 (March) 1940.
8. León y Blanco, F., cited by Pardo-Castello and Ferrer.[6]

It is in the late stage of the disease that the previously mentioned complications—hypertension, cardiovascular lesions and changes in the spinal fluid—are observed. Thonnard-Neumann, Camacho Moya and Brewster [5] reported cardiovascular changes in 80 per cent, Sáenz, Grau Triana and Alfonso Armenteros [7] in 23.3 per cent and Pardo-Castello and Ferrer [6] in 64.5 per cent of patients with pinta. Changes in the spinal fluid were observed by Sáenz, Grau Triana and Alfonso Armenteros in 10 per cent and by Pardo-Castello and Ferrer in 52.1 per cent. Pardo-Castello and Ferrer observed 8 patients with hypertension, in 5 of whom no aortic changes were demonstrable. The Wassermann and Kahn reactions of all the patients were strongly positive in this stage. Lymph from the affected areas, except those which are old, atrophic and burned out, is rich in spirochetes. The vitiligoid areas vary in color from milk white to ashen gray to yellowish white.

In the Cuban form the cutaneous lesions are not so regular or so prominent as in other forms. In most of the Cuban and in many of the Mexican patients the initial lesions and the early disseminated manifestations are slight and transient and may be overlooked. Dyschromic areas in which depigmentation alternates with slate blue hyperpigmentation are observed on the dorsal surfaces of the hands and feet, on the forearms and on the legs. The face, trunk, abdomen and thighs are usually free from lesions.

Diffuse or punctate palmar and plantar hyperkeratoses with or without fissures, which are characteristic of Cuban pinta, are absent in the Mexican form. Such hyperkeratoses never affect the dorsal surfaces of the hands and feet. They begin as slate blue hyperpigmented spots and simultaneously enlarge peripherally and increase in number. In time keratoses may entirely cover the palms and soles. According to González Herrejón, dyschromic changes of the palms are rare in Mexican pinta. The terminal stage is represented by achromic vitiligoid areas. Symmetrical depigmented triangles on the flexor surfaces of the wrists, which are a common feature of Cuban pinta, also occur in Mexican pinta. Pardo-Castello expressed the opinion that the more limited character of the chronic form of Cuban pinta is undoubtedly the result of constitutional factors and not of differences in the etiologic agent.

León y Blanco's second group of patients consisted of 3 Mexicans known to have syphilis. He inoculated them intracutaneously with material taken from Mexicans with pinta and containing the causative spirochete. Numerous disseminated cutaneous lesions, or pintids, developed in all 3 subjects. Inoculation of another person with lymph from their lesions resulted in the development of pinta but not of syphilis. These experiments established the individuality of pinta as a type of spirochetosis and also proved that patients with active syphilis are susceptible to pinta.

The third group consisted of 3 patients who had had pinta but had been treated with and apparently cured by arsenical preparations administered intravenously. Intracutaneous inoculation with material containing T. carateum resulted in the development of an initial lesion, but no disseminated lesions, or pintids, appeared. The fourth group, 5 patients with active late dyschromic lesions of pinta, were inoculated with similar material intracutaneously and were observed for forty-nine days, but no initial lesion developed.

The last two experiments established that reinfection with T. carateum is only partially successful in the early stages of pinta, that patients with late dyschromic lesions cannot be reinfected and that an attack of pinta confers immunity. By means of similar experiments carried out in Cuba, León y Blanco proved that Mexican and Cuban pinta are the same disease.

With regard to the mode of transmission of pinta, Pardo-Castello and Ferrer [6] stated that infection probably results from local contact with affected persons, since experimental inoculations can be made through minute and superficial abrasions of the skin. When one recalls that León y Blanco found T. carateum in the sweat of the surface of the affected skin of his patients, it is not surprising that the disease should be spread by simple contact. No case has been reported in which pinta was of venereal origin.

Pardo-Castello and Ferrer stated that only 12 per cent of their Cuban patients were white persons, most of the remaining 88 per cent being Negroes. In Colombia, Mexico and Venezuela the majority of the patients were Indians or mestizos, the latter being the most frequent sufferers. In Mexico children were frequently affected, but Pardo-Castello and Ferrer did not find any in whom the disease was of congenital origin. Their youngest Cuban patient was 23 years old, but they stated that their colleagues had had patients who were only 10.

The histopathologic changes of the late lesions of pinta, which are the best known and which in the main were shown by our sections, have been described by Ochotorena,[9] González Herrejón and Pallares [10] and Pardo-Castello and Ferrer.[6] They consist of atrophy of the epidermis, absence of pigment in the basal layer, huge accumulations of melanophores in the upper part of the corium, alternate or continuous bandlike infiltration in the papillary and subpapillary layers and, when there is hyperkeratosis, accumulation of horny material in the atrophied epidermis. Extracellular grains of pigment may be present in and between the cells of the infiltrate. In the vitiligoid patches there are atrophy of the epidermis, absence of the papillae, complete absence of pigment and sclerosis of the connective tissue. These changes represent the final atrophic and cicatricial stage of cutaneous pinta.

The treatment of pinta is similar to the treatment of frambesia and of syphilis. Gratz [11] of Colombia was the first to call attention to the use of compounds of mercury and of arsenic for pinta. Arsenical preparations administered intravenously and bismuth and mercury compounds administered intramuscularly are specific. However, as in the treatment of frambesia and of syphilis, the arsenical compounds are the more rapidly effective. Mexican and Cuban dermatologists have found that the effect of treatment on the serologic reactions was not so good as the rapid involution of the cutaneous lesions had led them to expect. The Wassermann and Kahn reactions of many of their patients remained persistently positive in spite of the most intensive and prolonged treatment. The serologic reactions of some patients became negative but only slowly. Our limited experience with pinta in 3 patients coincides with the foregoing observations.

9. Ochotorena, I.: Estudios histológicas y micológicos acerca del mal del pinto, Mexico, Departmento de Salubridad, 1929.
10. González Herrejón, S., and Pallares, M., cited by Pardo-Castello and Ferrer.[6]
11. Gratz, R. M., cited by Holcomb, R. C.: Pinta, a Treponematosis: A Review of the Literature, U. S. Nav. M. Bull. 40:517 (July) 1942.

The pathogenicity of T. carateum, according to Pardo-Castello, is much less than that of Treponema pallidum, and pinta is therefore much less dangerous than syphilis. However, because of the persistence of positive serologic reactions in the absence of active lesions, and especially because of the high incidence of cardiovascular complications, the treatment of pinta should be continued until the serologic reactions are negative. When these reactions remain positive in spite of intense and prolonged therapy with compounds of arsenic and of the heavy metals, fever therapy or treatment with nonspecific proteins, followed by therapy with heavy metals, is worthy of consideration.

Pardo-Castello and his associates studied the histories and examined the histopathologic sections and photographs of our patients and agreed that in cases 2 and 3 the disease was exactly the same as the Cuban form of pinta. In case 1 the type was that seen in Mexico, Colombia, Ecuador and Venezuela. Unfortunately, because of an oversight, the diffuse bluish areas on the inner sides of the thighs, the slate colored hyperpigmentation on the cheeks and the mottled areas on the flexor surfaces of the elbows and the lower thirds of the arms in case 1 were not photographed in detail. By the time the error was discovered, the lesions had been cured by intravenous injections of an arsenic preparation and intramuscular injections of a bismuth preparation. At the time my associates and I performed our inoculation experiments on animals we did not yet know that T. carateum is extremely susceptible to the action of the compounds of arsenic and of bismuth. It is impossible to demonstrate it in patients twenty-four hours after one injection of a bismuth or an arsenical compound.

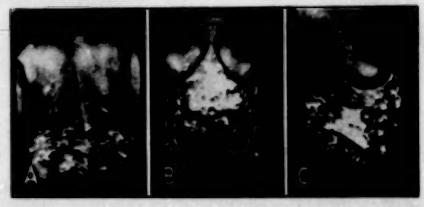

Fig. 1 (case 1).—Vitiligoid lesions: *A*, on lower lumbar, gluteal and sacral regions; *B*, with superimposed light brown areas of normal skin; *C*, on the right side of the patient's body.

REPORT OF CASES

Case 1.—A well nourished woman of 51 entered the dermatologic department of Michael Reese Hospital on Dec. 17, 1940 complaining of generalized pruritus and "white spots" on the skin.

She was born in St. Catherines, Ont., of mixed parentage; her father was Cherokee Indian and French and her mother Blackhawk Indian and Negro. At the age of 3 months she was taken to Pittsburgh, where she lived until 1939, when she moved to Chicago.

During the preceding six months she had been given two courses of treatment with bismuth salicylate, although a history of syphilitic infection had not been obtained.

At the time of admission to our clinic, in addition to the cutaneous lesions, the patient was suffering from severe asthma. There was no adenopathy.

On the malar eminences were cutaneous lesions in the form of peculiar bluish black, fairly sharply marginated plaques about the size of a half-dollar (30 mm.) and elevated about 2 mm. Numerous pinhead sized lesions of the same color and elevation but more sharply delimited were present in the immediate vicinity of the plaques. The surrounding skin had retained its normal light brown sheen.

The patient stated that in the areas of depigmentation on her body there had been, years before, hyperpigmented lesions similar to those on the malar eminences.

The skin on the inner sides of the breasts, on the submammary and lower sternal areas, on the entire abdomen, on the flexor and lateral surfaces of the thighs and on the lower lumbar and sacral regions presented a strikingly mottled appearance, the result of contrast between large vitiligoid areas and normal light brown skin. Pinhead sized to pea sized vitiligoid areas were present over the lateral surfaces of the neck and the entire dorsal surface of the trunk. The flexor surface of the lower third of each upper arm and of the upper third of each forearm had a finely reticulated appearance due to the presence of partially depigmented, faintly outlined vitiligoid areas the same size as those on the neck and the trunk and peculiar, sharply outlined and slightly elevated bluish black pinhead sized areas on a background of normal skin. There were a few isolated partially or completely depigmented lesions ranging in size from that of a pea to that of a dime (18 mm.) on the dorsal surfaces of the hands, on the lateral and flexor surfaces of the legs and on the lateral surfaces of the ankle joints but not on the dorsal surfaces of the feet. The palms and soles were free from dyschronic changes.

An area the color of diluted laundry bluing and level with the skin was present on the inner side of each thigh from the genitocrural region almost to the knee. The hyperpigmentation extended around to the extensor surface of the thigh for several inches. Two intensely pruritic black stippled lesions were situated midway between the scapulas. They were elevated about 3 mm. and were the size and shape of lima beans, resembling the lesions of psoriasis.

The results of additional antisyphilitic therapy were striking. Two months after treatment with neoarsphenamine had been instituted, the hyperpigmentation on the thighs as well as that on the malar eminences had disappeared. An additional three months of combined treatment with bismuth and arsenic caused complete involution of the psoriasiform lesions and the reticulated areas on the arms. Before treatment was given in our clinic dark field examination, impregnation of the tissues with silver, examination of stained smear preparations and inoculation experiments on animals all failed to reveal the presence of spirochetes. Study of the spinal fluid and cardiovascular and neurologic examinations revealed no abnormalities.

The Wassermann and Kahn reactions of the blood were both strongly positive Dec. 17, 1940 and April 7, 1941. Sept. 15, 1941 and April 7, 1942 the Wassermann reaction of the blood was negative, but the Kahn reaction was still strongly positive.

Biopsy of a depigmented area on a hip revealed the following microscopic changes: The epidermis showed pronounced hyperkeratosis. The rete pegs were reduced to small protrusions in some areas and were absent entirely in others. In the papillary part of the corium was a band of perivascular round cell infiltration. The blood vessels were dilated, the intima in some being edematous and in others proliferated to such an extent that the lumens were almost occluded. Except for a few melanoblasts, pigment was absent in the basal layer. A few chromatophores were visible in the subpapillary layer. Biopsy of one of the hyperpigmented lesions in the interscapular region revealed hyperkeratosis of the stratum corneum. The rete was slightly atrophic, the rete pegs being reduced in many places to small protrusions. Moderate perivascular round cell infiltration was visible in the papillary portion of the corium. The lymph spaces and the blood vessels were moderately dilated. The intima of the vessels showed slight edema, and in many capillaries proliferation of the intima was of a degree leading to almost complete occlusion. Pigment was present in the basal cell layer of the rete and in the stratum spinosum. Chromatophores and granules of free pigment were present in the subpapillary layer of the corium.

Case 2.—An obese Negro woman aged 51 entered the dermatologic department of Michael Reese Hospital on May 12, 1940 complaining of pains in the arms, hands and knees, edema of the ankles, dyspnea on exertion and severe pruritus of the palms and of the dorsal surfaces of the hands, including the fingers.

The patient was born in Louisiana and lived there until 1939, when she moved to Chicago. In the preceding seven years she had had seven abortions, each of which occurred spontaneously in the fourth month. She had received one course of treatment with neoarsphenamine and bismuth salicylate before entering our clinic.

In addition to obesity and the cutaneous lesions, she had advanced dental caries and infectious arthritis. There was no adenopathy.

Fig. 2 (case 2).—Deep black hyperpigmented plaque characteristic of pinta: *A*, extending from the dorsal surface of the left wrist joint to involve half of the dorsal surface of the forearm. Depigmentation of the entire dorsal surface of the left hand and parts of the dorsal surface of the thumb and fifth finger of the right hand. *B*, continuation of the plaque on the flexor surface of the left forearm. Characteristic triangular areas of leukoderma on the flexor surfaces of the wrists.

The skin on the dorsal surfaces of the left hand, including the fingers, showed depigmentation which extended several inches above the wrist joint. Rests of normal black skin of various sizes and irregular outline were superimposed on the vitiligoid areas. These areas were rough and resembled the surface of a fine mesh nutmeg grater.

The depigmented area on the back of the left hand was sharply demarcated above the wrist joint by the lower border of a black plaque, 3 mm. thick, which extended from the dorsal surface around to the flexor surface of the forearm, to end several inches above the wrist in a vitiligoid area shaped like an inverted V. A deep black, sharply outlined plaque 3 mm. thick extended upward from the depigmented area near the dorsal surface of the wrist, involved half of the extensor surface of the left forearm and wound around the middle of the forearm to end in a similar plaque which involved half of the flexor surface and was bounded distally by the V shaped vitiligoid area at the wrist.

The lesions on the palms were of two types, hyperkeratotic and macular. The hyperkeratotic lesions were black, slightly scaly, elevated and almost the size of a dime. The macular lesions were deep brown, about the size of a pea and sharply outlined. A partially depigmented area was present on the medial surface of the fifth finger of the right hand at the first metacarpophalangeal articulation. The lesion extended laterally and proximally for about an inch and wound around to the flexor surface of the forearm to end at the wrist in a vitiligoid area shaped like an inverted V. An identical area was present on the dorsal surface of the thumb at the first phalangeal articulation.

The patient stated that all of the depigmented areas had been preceded by plaques of the same color and thickness as those on the left forearm. These had been present for many years; hyperpigmentation had been noticed first in 1919, but depigmentation had not appeared until 1939.

When the patient was admitted to the clinic the Wassermann and Kahn reactions of the blood were strongly positive, and they remained strongly positive until Dec. 15, 1942 in spite of continuous treatment with arsenical compounds given intravenously and bismuth compounds given intramuscularly. After that date they were consistently negative.

The cutaneous response to therapy was more rapid. The pruritus of the hands disappeared after a few injections of neoarsphenamine. After six weeks of therapy the roughness of the dorsal surfaces of the hands was replaced by superficial atrophy. The black plaques on the left arm disappeared after three months of therapy and the hyperkeratotic and the macular lesions of the palms after two months.

Study of the spinal fluid and neurologic and cardiovascular examinations failed to reveal any pathologic changes. Ophthalmologic examination revealed corneal opacities, which were especially pronounced in the outer segments. Spirochetes could not be demonstrated by dark field examination, impregnation of the tissues with silver, study of stained smear preparations or inoculation experiments on animals. (The testes of rabbits were inoculated with tissue from the hyperpigmented and the depigmented lesions.)

Biopsy of a totally depigmented area at the left hypothenar eminence revealed a hyperkeratotic and definitely atrophic epidermis entirely without pigment. The pathologic changes in the corium were restricted to the pars papillaris and consisted of dilatation of the capillaries and lymph spaces, edema of the connective tissue and round cell infiltration of perivascular distribution. The reticular portion of the corium showed slight edema, and round cells were distributed between the connective tissue bundles. The capillaries and the larger and smaller vessels showed edema and desquamation of the intima. In some of the vessels intimal proliferation had advanced to such a degree that they were almost occluded.

Biopsy of a hyperpigmented patch on the flexor surface of the left forearm revealed pronounced hyperkeratosis with preservation of the stratum granulosum. The rete malpighii showed progressive atrophy, which in some areas was far advanced. Considerable round cell infiltration was present in the subpapillary portion of the corium, which also showed advanced edema and destruction of the connective tissue bundles. The lymph spaces and blood vessels were dilated and edematous, and there was desquamation of the intima. The vessels in the reticular portion of the corium showed intimal proliferation of a degree sufficient to bring about almost complete occlusion of the lumens. The basal layer of the epidermis and the papillary portion of the corium were virtually packed with pigment in melanoblasts and chromatophores and with coarse granules lying between the connective tissue bundles.

CASE 3.—An obese Negro aged 50 entered the dermatologic clinic of the Michael Reese Hospital on May 2, 1939, referred from the surgical department because of positive serologic reactions and headache and vertigo of six months' duration.

Fig. 3 (case 3).—*A*, vitiligoid lesions on the dorsal surface of the right hand, including the fingers; *B*, dyschromia of the palm and volar surfaces of the fingers of the right hand; characteristic triangular area of leukoderma at the wrist; *C*, dorsolateral view of the right hand showing continuation of the vitiligoid area to the forearm to end on the flexor surface in the characteristic triangular area of leukoderma.

The patient was born in Alabama and lived there until 1939, when he moved to Chciago. There was no history of syphilitic infection, although the Wassermann and Kahn reactions of the blood were both strongly positive on a number of occasions. Adenopathy was not present.

The patient was referred for examination to the medical department, which reported enlargement of the aorta, accentuation of the second aortic sound and a systolic murmur at the apex. The blood pressure was 188 systolic and 114 diastolic. Neurologic examination and examination of the spinal fluid revealed no evidence of disease of the central nervous system.

On May 2 the clinician who first saw the patient observed a black, sharply outlined, dollar sized (38 mm.) hyperpigmented patch 3 mm. thick on the flexor surface of the right wrist, extending 1 cm. into the palm. There was a juxta-articular node on the dorsal surface of the second phalangeal articulation of the fifth finger of the same hand. A second node was present in the suprapatellar region of the right leg. The patient stated that these nodes had been present for six years.

The patient had already received three courses of treatment with bismuth salicylate, and by the time we saw him, on May 9, 1940 the hyperpigmented patch at the wrist and the juxta-articular nodes had disappeared.

The dorsal surfaces of the right hand, including the fingers, had a mottled appearance resulting from contrast between irregularly outlined vitiligoid patches and normal black skin. The depigmentation extended from the dorsal surface of the metacarpophalangeal articulation of the thumb and from the dorsomedial surface of the forearm to end in a V shaped vitiligoid area terminating several inches above the wrist joint.

The palm was studded with coal black, sharply outlined, hyperkeratotic, slightly scaly lesions about the size of a pea, with irregularly outlined depigmented areas and with irregularly outlined dark brown lesions ranging in size from that of a dime to that of a pea. When first seen the depigmented lesions on the dorsal surfaces of the hand, including the fingers, were of a peculiar pinkish color and so rough that they resembled a fine mesh nutmeg grater.

The patient in 1927 had first noticed black hyperpigmented areas on the fingers and hand at the sites where the vitiligoid areas later appeared. The hyperpigmented patch on the flexor surface of the forearm was also present at that time. Depigmentation appeared in 1939. The hyperkeratotic lesions disappeared after three months of combined therapy with compounds of arsenic and bismuth, and the depigmented areas became perfectly smooth, ivory white and atrophic. On Nov. 20, 1941, the last time the patient visited the clinic, the Wassermann and Kahn reactions of the blood were still strongly positive.

Biopsy of a depigmented area on the flexor surface of the right wrist revealed pronounced hyperkeratosis, atrophy of the rete, absence of pigment in the epidermis and round cell infiltration which extended to the basal cell layer throughout the section and was especially prominent in the papillary layer of the corium. The small capillaries in the infiltrated portion of the papillary layer were dilated, and their intima showed desquamation. The intima of the larger capillaries in the papillary layer and of the vessels throughout the reticular layer of the corium showed proliferative changes. In many instances these were so extensive that the lumens of some vessels were materially narrowed and of others occluded.

On Aug. 8, 1942 the patient was admitted to the medical service of Michael Reese Hospital acutely ill. The clinical diagnosis was arteriosclerotic heart disease, malignant nephrosclerosis and uremia, and he died on August 24. Dr. Otto Saphir, who performed the autopsy, failed to find any evidence of syphilis but reported general arteriosclerosis, old pyelonephritis in arteriosclerotic kidneys, hypertrophy and dilatation of the heart, chronic passive hyperemia of the lungs, liver, kidneys and spleen, bilateral bronchopneumonia of the lower lobes, a small aneurysm of the right coronary artery and old bilateral fibrous pleuritis.

All 3 patients maintained that they had never had sexual relations or shared living quarters with persons who had lived in the tropics or who had had lesions resembling theirs.

104 South Michigan Avenue.

THE CONTROL OF AN OUTBREAK OF BACILLARY DYSENTERY WITH SULFONAMIDES

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Bacillary dysentery continues to be a problem in crowded institutions, army camps and orphanages. The difficulty of control has been pointed out by many authors.[1] In former years treatment of the cases was purely symptomatic and control of the infection could be obtained only by isolation and quarantine or by permitting the outbreak to run its course after it had attacked a large percentage of the susceptible. Since the introduction of the sulfonamides, favorable reports of treatment of cases of bacillary dysentery with these drugs have appeared in the literature.[2] Of late the less soluble drugs, particularly sulfaguanidine and succinylsulfathiazole, have had a considerable vogue. Theoretically there should be an advantage in the use of these drugs, since the concentration of the drug in the intestinal tract is higher than with the more readily absorbable ones.

TABLE 1.—*Cases and Carriers According to Location in the Building*

Floor	Population		Age	Cases		Carriers	Cases and Carriers with Positive Stool Cultures
	Boys	Girls		Stools Positive	Stools Negative		
Second	10	14	1½-4	10	14	0	10
Third	0	49	5-11	3	1	17	20
Fourth	40	0	8-11	0	1	20	20
Fifth	22	0	4-7	12	1	13	25
Total	82	63		25	17		
	145			50		50	83

OUTBREAK

We had an opportunity recently to test the value of the sulfonamides in the control of an outbreak of bacillary dysentery, Sonne type. The outbreak occurred in an orphan asylum housed in a well constructed five story building. There was a total of 145 white children being cared for in the building at the time of the investigation, and these were divided into four groups, one each on the second, third, fourth and fifth floors. While the children are kept in their respective quarters they visit one another, eat together in the dining room and mingle at play and school. Some of the children

From the Israel Orphan Asylum, New York City.
Dr. Morris Greenberg, epidemiologist of the New York City Department of Health, gave assistance and counsel. All the laboratory work was performed for us in the enteric fever laboratory of the New York City Department of Health, and Miss Carolyn Oldenbush rendered assistance. Miss Charlotte Rosenzweig, nurse in charge at the Israel Orphan Asylum, was cooperative and helpful.

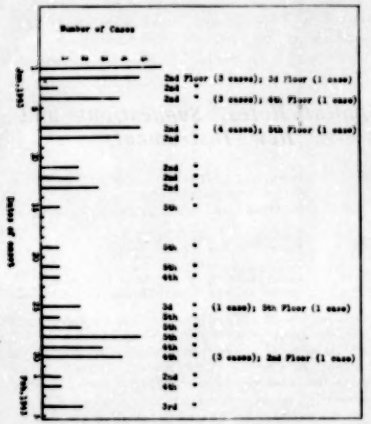
1. Cruickshank, Robert, and Swyer, Robert: Outbreak of Sonne Dysentery, Lancet **2**:803-805 (Dec. 28) 1940. Smyth, C. J.; Finkelstein, M. B.; Gould, S. E.; Koppa, T. M., and Lerder, F. S.: Acute Bacillary Dysentery (Flexner): Treatment with Sulfaguanidine and Succinylsulfathiazole, J. A. M. A. **121**:1325-1330 (April 24) 1943. Roberts, T. L., and Daniels, W. B.: Succinylsulfathiazole in the Treatment of Bacillary Dysentery, J. A. M. A. **122**:651-653 (July 3) 1943.

2. Abente Haedo, F., and Rodriguez Devincenzi, A.: Sulfonamide Compounds in Bacillary Dysentery, Arch. urug. de med., cir. y especialid. **21**:115-127 (Aug.) 1942. Marshall, E. K., Jr.; Bratton, A. C.; Edwards, Lydia B., and Walker, Ethel: Sulfanilylguanidine in Treatment of Acute Bacillary Dysentery in Children, Bull. Johns Hopkins Hosp. **68**:94-111 (Jan.) 1941. Paulley, J. W.: Treatment of Bacillary Dysentery in Middle East, Lancet **2**:592-594 (Nov. 21) 1942. Smyth, Finkelstein, Gould Koppa and Lerder.[1]

receive instruction in the building; others, the older ones, attend a public school across the street. There were no cases of diarrhea or dysentery in this public school.

On Dec. 16, 1942 S. H., a boy aged 11, of the fourth floor group, who had been in the institution since 1939, became ill with diarrhea which persisted for about three days. No cultures of his stool were made. On Jan. 4, 1943 this child again became ill with vomiting, fever and diarrhea. A stool specimen was submitted to a private laboratory on January 8 and was reported as positive for dysentery bacilli.

On January 2, 4 children on the second floor became ill with symptoms of vomiting, fever and diarrhea. They had been in the institution for at least three months. Other children on this floor developed similar symptoms, and by January 13 all the 24 children on this floor had become ill. The disease spread to the other floors. On January 2 a case occurred on the



Cases by dates of onset and location in building.

third floor and 3 other children later became ill on this floor. From January 4 to February 2, 9 cases occurred on the fourth floor, and from January 15 to January 28 12 cases developed on the fifth floor. A total of 50 children became ill between January 2 and February 4. The onsets are shown in the chart.

An investigation was begun toward the end of January. All new admissions were discontinued. The sick children were isolated, and stool specimens were obtained from all children in the institution as well as from all adults employed there. At least 3 specimens were cultured from each child. Those with positive specimens were not released until three successive specimens taken not less than forty-eight hours apart were reported as negative by the laboratory. A final survey was made of all the children by cultures inoculated directly from a rectal smear, before the institution was permitted to reopen.

Table 1 shows the distribution of the cases in the institution, as well as the results of the culture survey. It will be noted from the table that there were 33 boys and 17 girls affected and that 33 of the 50 children, or 66 per cent, had Bacterium sonnei in their stools.

Bacteriologic Examination.—Stool specimens were received in the laboratory in paper containers on the same morning that they were passed, usually within one to three hours. They were plated with a heavy inoculum or SS agar, and streakings were also made on plates of MacConkey and bismuth sulfite. Bismuth sulfite plates were examined after incubation for forty-eight hours. MacConkey and SS agar plates were examined after incubation for twenty to twenty-four hours and suspected colonies fished on to Krumwiede's triple sugar medium and incubated for sixteen to twenty hours. Colonies giving Shigella reactions were fished and tested with type specific antiserums. Inoculations into sugar tubes were made only at the beginning of the study. Later cultures were classified by means of agglutination reactions with type specific antiserums only.

TABLE 2.—*Treatment of Bacteriologically Positive Cases and Carriers According to Drug Administered*

Floor	Sulfathiazole	Sulfadiazine	Sulfaguanidine	Succinylsulfathiazole	Total
Second	10	..	..	..	10
Third	..	11	9	..	20
Fourth	11	2	9	6	28
Fifth	..	..	4	21	25
Total	21	13	22	27	83

A total of 715 cultures were made from the 145 children. None of the specimens from the adults were positive, and they are therefore omitted from consideration in this study. Specimens from 83 children were positive for B. sonnei. Of these, 33 were from children who were ill or had recently recovered, and 50 were from symptomless carriers. Their distribution in the building is shown in table 1.

An attempt was made at first to isolate all children with positive stools as they were discovered. However, facilities were lacking for the isolation of so many and it was therefore decided to use the sulfonamides in an attempt to control the outbreak. Four of the sulfonamides were employed: sulfathiazole and sulfadiazine in doses of 1 grain per pound of body weight, and sulfaguanidine and succinylsulfathiazole in doses of 2 grains per pound of body weight. The drugs were administered to all children with positive stools. No selection was made in the children treated with the different sulfonamides. The nurse was instructed to give the four drugs in rotation to numerically equal groups of patients. This was fairly well carried out except that sulfadiazine was given to a smaller than

TABLE 3.—*Bacteriologically Positive Children Not Cleared After One Course of Treatment*

Name	Date of Positive Stool Before Administration of Drug	Drug Administered and Number of Days		Date of Positive Stool After Administration of Drug	Further Treatment	
J. G.	2/ 2	Sulfathiazole	6	2/24	Sulfaguanidine	2/26-28
H. B.	2/ 4	Sulfathiazole	4	2/22	Sulfadiazine	2/24-27
M. S.	2/ 4	Sulfathiazole	4	2/22	Sulfadiazine	2/24-27
F. W.	2/ 4	Sulfaguanidine	4	2/22	Sulfadiazine	2/24-27
J. S.	2/12	Sulfaguanidine	4	2/18	Succinylsulfathiazole	2/20-23
R. G.	1/29	Succinylsulfathiazole	6	2/22	Sulfathiazole	2/24-27
R. P.	2/ 1	Succinylsulfathiazole	6	2/24	Sulfadiazine	2/27-27
	2/24	Sulfadiazine	3	3/ 1	Sulfathiazole	3/ 4-7
L. W.	2/ 1	Sulfaguanidine	6	2/15	Sulfadiazine	2/17-20
	2/15	Sulfadiazine	3	3/ 1	Sulfathiazole	3/ 4-7

average group, as is indicated in table 2. The children were kept on the drugs for an average of four days. Some received it for only three days and others for as long as six days. Of the 83 cases and carriers all but 8 failed to show B. sonnei in their stools following treatment. Of the 8 whose stools were positive after treatment, 3 had received sulfathiazole, 3 sulfaguanidine and 2 succinylsulfathiazole. All were again treated with a different sulfonamide; 6 cleared up, while 2 required a third course of treatment (table 3).

Clinical Findings.—The cases were mild and no deaths occurred. Diarrhea lasted between two and four days. The stools contained mucus and blood. Temperatures in most cases ranged between 100 and 101 F., but in a few cases the temperature at onset was between 103 and 104 F. Abdominal cramps and vomiting occurred during the first twenty-four hours only. Blood counts were done on all patients and varied between 7,500 and 10,000 white blood cells per cubic millimeter. The polymorphonuclear leukocytes ranged between 65 and 72 per cent. Urine specimens were all normal.

All children were followed with frequent blood counts and urine examinations while receiving the drugs. No blood was found in any of the urinary specimens, and no significant reductions in the number of red and white blood cells or in the percentage of granular blood cells. Two children developed a red macular rash, one after four days of treatment with sulfathiazole, and the other after three days of sulfadiazine administration. The rash disappeared within twenty-four hours after the drug was discontinued.

COMMENT

The sulfonamides appeared to be quite effective in the control of the outbreak. In the dosages and for the periods given no advantages could be claimed for one over the other of the four drugs used. As noted, sulfathiazole and sulfaguanidine failed in 3 cases, each used respectively for six, four and four consecutive days, and succinylsulfathiazole failed in 2 cases in which it was given for four days. Sulfadiazine failed in 2 cases in which it was substituted for a period of three days for another drug which had failed (table 3).

An interesting feature of the bacteriologic examinations was the total inhibition of growth of all intestinal organisms on the mediums used, as a result of the administration of the sulfonamides. This occurred in 80 per cent of all children treated with sulfathiazole, 70 per cent of those treated with sulfadiazine, 63 per cent of those treated with succinylsulfathiazole and 36 per cent of all treated with sulfaguanidine. We are unable to say how soon after administration of the drug growth was inhibited or how long the inhibition lasted, since we did not take daily cultures. Some idea may be obtained, however, from the following examples:

1. Five children had positive stool cultures on February 2. Sulfathiazole was administered from February 4 to February 10. Stool cultures on February 8, 11 and 15 gave no growth. On February 24 stool cultures gave growths of Escherichia coli.

2. A child's stool was positive on February 5. He was treated with sulfadiazine from February 7 to February 10. Stool cultures on February 11 and 15 gave no growth. Stool culture on February 24 gave a growth of E. coli.

3. A positive culture was obtained from a child's stool on February 4. He was treated with succinylsulfathiazole from February 6 to February 10. On February 11 the culture of the stool gave no growth. On February 15 there was a growth of E. coli.

4. A child's stool was positive on February 22. She received sulfaguanidine from February 24 to February 27. Stool cultures on March 1 and March 8 gave no growth. On March 10 a stool culture gave a growth of E. coli.

SUMMARY

1. An outbreak of Sonne dysentery involving 50 children occurred in an orphanage with a total census of 145. Bacteriologic survey disclosed 83 children with positive stool cultures.

2. The administration of sulfathiazole and sulfadiazine in doses of 1 grain and sulfaguanidine and succinylsulfathiazole in doses of 2 grains per pound of body weight for an average of four days cleared 90 per cent of the children with positive stools. The remaining 10 per cent were cleared with one or two additional courses of treatment.

3. The administration of the drugs caused complete inhibition of growth of intestinal bacteria for a time in 80 per cent of all children treated with sulfathiazole, 70 per cent of those treated with sulfadiazine, 63 per cent of those treated with succinylsulfathiazole and 37 per cent of all treated with sulfaguanidine.

15 West Eighty-First Street—317 East Seventeenth Street.

Clinical Notes, Suggestions and New Instruments

COLD AUTOHEMAGGLUTININS FOLLOWING ATYPICAL PNEUMONIA PRODUCING THE CLINICAL PICTURE OF ACROCYANOSIS

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AND
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The phenomenon of autoagglutination and autohemolysis has often been described in paroxysmal hemoglobinuria, which is sometimes encountered in congenital syphilis. In 1937 McCombs and McElroy [1] in a review of the available literature reported that autoagglutination had been observed in hemolytic icterus, trypanosomiasis,[2] severe anemias and liver disease, occasionally in pneumonia and also in apparently normal persons. It has likewise been reported in cases of hemolytic anemia associated with sulfanilamide therapy [3] and acute hemolytic anemia due to lead poisoning.[4] Wiener [5] in his recently revised book on "Blood Groups and Transfusions" expressed the thought that the phenomenon must not be too rare because he himself had observed at least a dozen instances of autoagglutination occurring at room temperature.

In February 1943 Peterson, Ham and Finland [6] reported finding a high incidence of cold agglutinins (autohemagglutinins) which appeared at low temperatures in the blood serum of patients with primary atypical pneumonia. In this report they suggested that the demonstration of cold agglutinins might possibly serve as a useful test for such atypical pneumonias.

Since atypical pneumonia has been prevalent in the armed forces during the past winter and, owing to the fact that we

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have recently observed a striking instance in which auto-agglutinins were active even at room temperature and produced vascular changes suggesting the clinical picture of acrocyanosis, it seemed worth while to report the following case:

REPORT OF CASE

Corporal T., aged 38, was seen in the outpatient clinic of the Station Hospital because his barrack mates observed that his nose, ears, and hands were a deep purple (fig. 1). He himself discovered that this phenomenon occurred only after he was exposed to cold.

He had suffered with a respiratory infection in March 1943, at which time a large number of patients with atypical pneumonia were being hospitalized at this air base. He was quite sick for about three days with cough and fever and did not recover from the cough and generalized malaise for about two weeks. The vascular phenomenon previously mentioned appeared for the first time, to his knowledge, about one month after the original onset of his symptoms. This soldier is much above the average in intelligence, and his statement, therefore, that this was the first time he had ever noted this condition

Fig. 1.—Patient after exposure to cold, showing cyanotic discoloration of face and outer edge of auricular cartilage.

seemed credible. No other member of his family was similarly affected. Prior to entering the armed services he was an accountant, and his military duties have been entirely clerical.

The clinical picture of acrocyanosis could be reproduced at will by exposing him to cold. After he returned to room temperature about fifteen minutes was required for the abnormal discoloration to disappear.

Capillaroscopy was made of the nailfolds of the patient's fingers. It was found that the capillaries reacted more or less normally to considerable variations in temperature, except for moderate ballooning of the summit of the loops when the hand was cyanotic. Not all capillaries in the field showed the latter phenomenon, and it was interpreted as being due to reversible intravascular autoagglutination. Thermocouple readings of hand skin temperatures before, during and after chilling varied but slightly from similar readings on normal controls. When an attempt was made to do a routine red cell count on the patient with the diluting fluid at room temperature, prompt agglutination of massive character took place in the hemocytometer pipet. However, when the diluting fluid was warmed a little above body temperature the agglutination was found to be completely reversible and a smooth, even suspension of red cells was obtained. Moreover, prompt agglutination could be produced again and again in hanging drop suspensions by repeated warming and chilling. The patient's blood was of group O. When the serum was separated from the clot it had the property of agglutinating not only the patient's own washed red cells but also the washed cells of normal group O

Fig. 2.—Section under high power magnification showing patient's washed red cells and serum after warming. Hanging drop preparation. No agglutination.

persons (figs. 2, 3 and 4). After repeated chilling of the patient on numerous occasions, no hemoglobin was found at any time in his urine. Furthermore, the "acid hemolysis test" [7] for exclusion of paroxysmal hemoglobinuria was entirely negative. The complete "acid hemolysis test" as described by Ham was carried out with the patient's red cells and the red cells of a known normal control with identical results.

Protein determinations showed a total serum protein of 6.4 per cent, albumin 4.9 per cent and globulin 1.5 per cent. The autoagglutinins were readily absorbable by the patient's own red cells and by red cells of normal group O persons. The autoagglutinins were active in dilutions up to 1:5,000. Moreover, these autoagglutinins could be recovered in saline solution from the washed agglutinated red cell masses and were found to be active again for group O red cells.

A careful physical examination and other laboratory studies for liver diseases, syphilis and other conditions in which cold agglutinins have previously been described were entirely negative. His blood picture was normal, and the only blood abnor-

Fig. 3.—Section under high power magnification showing agglutination of patient's washed red cells by his own serum after cooling. Hanging drop preparation.

malities that we could discover were the presence of these so-called cold autohemagglutinins, which were present even at room temperature, and an extraordinary rapid sedimentation rate when the cell suspension was placed in the ice box, whereas the rate was normal when the suspensions were warmed.

7. Ham, T. H.: Personal communication to the authors.

COMMENT AND CONCLUSIONS

We believe that when the patient was chilled the autohemagglutinins in his blood serum produced reversible intravascular agglutination. We further believe that this intravascular agglutination, rather than an underlying structural or neurogenic vascular disease, produced the clinical picture of acrocyanosis.

Although cases exhibiting Raynaud-like phenomena associated with reversible autohemagglutination and paroxysmal hemoglobinuria have been described by McCombs and McElroy,[1] by Ernstene and Gardner,[8] by Wiener [5] and by others, our case is unique in that there is no associated paroxysmal hemoglobinuria, a negative Donath-Landsteiner test and a negative Ham test for acid hemolysins. Davidsohn [9] studied a patient with a condition resembling Raynaud's disease whose serum agglutinated her own cells at ice box temperature and at 22 C. Davidsohn does not mention whether this patient had paroxysmal hemoglobinuria or a positive Donath-Landsteiner test; unfortunately, we have been unable to obtain any further information on this point. Peterson, Ham and Finland [6] mentioned phlebothrombosis and pulmonary emboli complicating a few of their

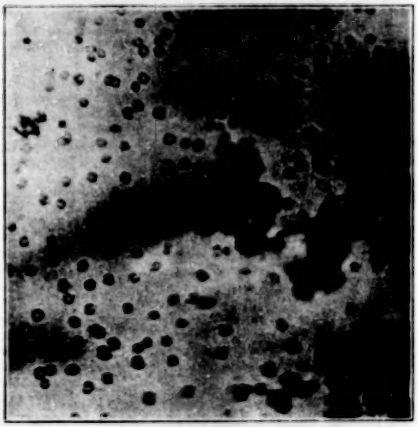

Fig. 4.—Section under high power magnification demonstrating agglutination with patient's serum and washed red cells of a normal person of the same blood type. Chilled hanging drop preparation.

cases of virus pneumonia associated with autohemagglutinins, but they noted no examples of vascular phenomena similar to those in this case.

With the possible exception of the case reported by Davidsohn,[9] the clinical picture of acrocyanosis has not to our knowledge been described before in connection with the isolated phenomenon of autohemagglutinins without autohemolysins. It may be that, with the higher incidence of atypical pneumonia producing autohemagglutinins, more cases will be observed. In conclusion, one cannot help but wonder whether one of the reasons for the wide variation in the descriptions of the underlying structural, pathologic, vascular changes recorded for acrocyanosis might not have had as their basis the fact that no true underlying pathologic condition existed aside from the possible presence of autohemagglutinins, which had not been observed or whose presence had not been properly interpreted. Moreover, the possible hazard in using convalescent blood, plasma or serum from persons who have recovered from atypical pneumonia should be in mind.

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THE RELIEF OF ACUTE PLEURITIC PAIN BY INTERCOSTAL NERVE BLOCK

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Pain of pleural origin causes the physician great concern in the treatment of pneumonia and pulmonary infarction. It is often persistent, agonizing and exhausting. The rapid, shallow respiration which results from it does not aerate the lungs sufficiently and may promote atelectasis. Furthermore, it is the pain itself which brings the patient to the physician. Rapid relief of this pain gives the patient great confidence in the doctor. The variety of procedures suggested for the relief of pleural pain has emphasized the obstinacy of the problem. Counterirritation, adhesive strapping, the use of opiates, artificial pneumothorax and local injection of the pleura and subcutaneous tissues with procaine hydrochloride each has had its advocates.

My purpose in this report is to describe a procedure of relieving pleural pain by inducing intercostal nerve block with procaine hydrochloride. This method is simple and effective, often producing permanent relief of the pleural pain associated with pneumonia. It allows relatively free motion of the thoracic wall and so favors adequate aeration of the lungs, affording protection against the complication of atelectasis. Drainage of the involved area of the lung is promoted, for coughing is rendered nearly painless. This is an added advantage in the occasional patient from whom it is difficult to secure a specimen of sputum. Cumbersome chest binders and adhesive tape are avoided.

METHOD

The nerves to be injected are those corresponding to the intercostal spaces over which definite tenderness can be elicited by slight pressure. The injection is made most conveniently in the posterior axillary line or anterior to this. However, in instances in which the hyperesthesia is located more posteriorly, injection can be made in the midscapular line. A procaine hydrochloride wheal is first made in the overlying skin. A 20 to 21 gage needle is then introduced through the anesthetized area of skin until contact is made with the outer border of the rib immediately above the selected space. The periosteum is anesthetized with a few minims of procaine hydrochloride, after which the needle point is carried down to the inferior margin of the rib, where it falls into the groove occupied by the intercostal nerve and vessels. At this point traction is exerted on the plunger until the operator is certain that the needle has not entered a vessel. If no blood is drawn, the nerve is then infiltrated with 2 cc. of a 1 per cent solution of procaine hydrochloride.

REPORT OF CASES

CASE 1.—A white man aged 38 was admitted to the hospital with pneumococcic pneumonia of five days duration. A sharp, radiating pain had been present in the right lower quadrant of the chest for seventy-two hours. There was a pronounced increase in the respiratory rate as well as an inability to cough deeply. Infiltration of the fourth, fifth and sixth right intercostal nerves gave prompt and complete relief of pain without recurrence. Shortly after the injection was completed the patient fell asleep, this being his first rest since the onset of the pain.

CASE 2.—A white man aged 60 with pneumonia involving the lower lobe of the right lung and associated severe pleuritic pain had the fifth and sixth right intercostal nerves blocked. There was cessation of pain with permanent relief, and the patient was able to sleep.

CASE 3.—A white man aged 66 with perforated peptic ulcer and right subdiaphragmatic abscess complicated by pneumonia involving the lower lobe of the right lung had severe pleural pain over the right lower lateral and anterior thoracic wall. There were hyperesthesia and muscular spasm over the right upper abdominal quadrant and pain on respiration in this region. Intercostal block of the lower six thoracic nerves on the right promptly relieved the thoracic pain and the abdominal pain that was produced by respiration, but abdominal tenderness and spasm persisted.

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CASE 4.—A Negro man aged 63 had extremely severe right-sided pleural pain with limitation of respiration, resulting from an infarct of the lower lobe of the right lung. Pain and hyperesthesia extended down over the abdomen as far as the inguinal ligament. Procaine block of the lower six intercostal nerves on the right brought immediate complete and permanent relief of the pain.

CASE 5.—A Negro man aged 35, after seven days of complete consolidation of the right lung, developed severe pleuritic pain over the anterior and lateral right thoracic wall. The pain radiated to the umbilicus and over the right upper abdominal quadrant. Intercostal block of the right fourth, fifth, seventh and eighth nerves relieved the pain permanently.

CASE 6.—A Negro man aged 20 with atypical pneumonia had intense right-sided pleurisy of eighteen hours' duration. Injection of the seventh and eighth right intercostal nerves gave complete and permanent relief.

CASE 7.—A Negro man aged 25 with atypical pneumonia, atelectasis of the lower lobe of the right lung, displacement of the mediastinum, pronounced increase in respiratory rate and a moderate degree of cyanosis had for twenty-four hours complained of severe pleuritic pain occurring laterally and anteriorly over both walls of the chest. Bilateral intercostal block of the ninth, tenth and eleventh nerves produced immediate relief with clearing of the cyanosis and a sharp drop in the respiratory rate. Eighteen hours later the pain recurred on the left, but prompt reinjection of the nerves abolished his symptoms permanently.

CASE 8.—A Negro woman aged 24 complained bitterly of pleuritic pain associated with pneumonia involving the lower lobe of the right lung. The pain had been intense for thirty-six hours. Infiltration of the seventh, eighth and ninth right intercostal nerves caused immediate cessation of pain, and the patient was able to sleep.

CASE 9.—A Negro man aged 27 entered the hospital with severe bilateral pain in the chest, aggravated by coughing on deep inspiration. He had pneumonia of the lower lobe of the right lung and pleurisy on the left, as evidenced by an audible friction rub. Accompanying the process there was a definite increase in respiratory rate. The patient was unable to raise any sputum. The ninth, tenth and eleventh intercostal nerves were blocked bilaterally with complete and permanent relief of pain, a drop in the respiratory rate and definite mental changes, as shown by lack of anxiety and the ability to sleep. After the block the patient was able to cough without pain and a specimen of sputum was easily obtained.

CASE 10.—A Negro youth aged 15 was admitted to the hospital with pneumonia of the middle and lower lobes of the right lung. Eight hours prior to admission he had severe pleuritic pain. Immediately on admission to the hospital block of the right eighth and ninth intercostal nerves gave immediate and permanent relief of pain.

CASE 11.—A Negro man aged 30 had pneumonia involving the lower lobe of the left lung, accompanied by severe pleuritic pain, hyperesthesia over a wide area, increased respiratory rate and inability to cough. Procaine block of the lower seven intercostal nerves on the left reduced the respiratory rate, abolished the pain and hyperesthesia, and rendered coughing less painful. This made it possible for the patient to obtain rest and sleep, which had not been accomplished since onset of the pneumonia.

CASE 12.—A Negro youth aged 17 with pneumonia involving the lower lobe of the right lung and associated pleural pain of severe nature had the right seventh, eighth, ninth and tenth intercostal nerves blocked, with immediate and complete relief of the pleural pain.

CASE 13.—A Negro man aged 39 with pneumonia of the middle and lower lobes of the right lung and agonizing pleural pain of fourteen hours' duration had the right sixth intercostal nerve blocked, with relief of pain for about ten minutes. The pain recurred over the lower three nerves, which were again injected. There was complete disappearance of the pain. Twenty minutes later the pain recurred but was of much less severity than on previous occasions. At this point the patient was given morphine sulfate ⅙ grain (0.011 Gm.) and in a short time was asleep. There was no recurrence of the pain after the patient awakened.

CASE 14.—A Negro woman aged 49 entered the hospital with pneumonia of the middle and lower lobes of the right lung and pleuritic pain of eight hours' duration. Injection of the right seventh, eighth and ninth intercostal nerves produced immediate and permanent relief of the pain.

COMMENT

Thirteen patients who had pneumonia and a fourteenth who had pulmonary infarction were suffering with severe lancinating pleural pain aggravated by cough and deep inspiration. All but 3 of those with pneumonia had audible friction rubs. The respiratory rate was definitely increased. Six patients had pain referred to an upper abdominal quadrant and the periumbilical region. In the patient with pulmonary infarction the pain extended 2 fingerbreadths below the inguinal ligament. The pain of each of these patients was relieved by intercostal nerve block within five to ten minutes after the injection was completed. Pain recurred in only 2 patients. In the first the pain returned eighteen hours after the initial block. Reinjection of the nerves produced permanent and complete relief from the pain. In the second the pain reappeared ten minutes after the first injection. Reinfiltration of the nerves provided complete relief for twenty minutes, but the pain again recurred in about one half of the area supplied by the blocked nerves. The patient was given morphine ⅙ grain (0.011 Gm.), shortly after which he fell asleep and the pain did not recur on awakening. The majority of the patients had considerable tachypnea, and in these the character of respiration was materially altered following intercostal block. It became deeper, slower and more regular, with obliteration of the respiratory grunt.

The immediate relief of the pain after procaine block was to be expected. However, the prolonged disappearance of the pain came as a distinct surprise. At first it was thought to be a mere coincidence, but later it became clear that prolonged relief of pleural pain was the usual result of intercostal nerve block. The anesthetic effect of the procaine lasted only a short time. Therefore, prolonged anesthesia could not account for the permanent disappearance of the pain. The increase in depth of respiration was striking in all cases as soon as the pain was completely abolished, and it may be that the increased motion of the parietal pleura was in some way connected with the permanent relief of pain. Recent studies have demonstrated that prolonged relief of pain from a sprained ankle may result from the combination of local anesthesia and motion.[1] As in the case of pleural pain, the disappearance of pain in the ankle persists long after the anesthetic effect of the procaine has worn off.

Other authors have injected procaine hydrochloride for relief of pleural pain. Weiss and Davis [2] recommended subcutaneous infiltration of the hyperesthetic skin. Schmur [3] advised local infiltration of the pleura. Both of these methods are successful if the area of hyperesthesia is well localized, but they are not practical when the pain is widespread. The method of intercostal block described here has proved infinitely more simple and time saving for me.

SUMMARY

In a series of 14 consecutive cases, severe pleural pain was relieved effectively by intercostal nerve block. The resultant improvement in the general condition of the patients was striking. Anxiety disappeared, and most patients fell asleep shortly after the procedure was completed. For some, this was the first rest in many hours.

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UNIVERSAL O BLOOD TRANSFUSION

COMBINATION OF POOLED PLASMA AND O CELLS

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The importance of blood grouping, first demonstrated by Landsteiner, opened the way for transfusion as a safe therapeutic measure. By cross matching, the occasional reactions due to incompatibility of bloods were obviated.

The use of universal blood donors was first described by Ottenberg[1] in 1911. Since then, especially because of objections raised by Coca,[2] Hesse[3] and others,[4] the indiscriminate use of the universal donor has been condemned by many. The presence of agglutinins in a titer higher than 1:16 is considered unsafe. The serum of the universal donor has an increased titer in 3 per cent of donors according to Coca and in a larger percentage according to Hesse (a titer of 1:32 or over in 42 per cent against A cells and 32 per cent against B cells). The desire to curb the indiscriminate use of the universal donor has resulted in a sanitary code regulation in New York State, January 1941, prohibiting the use of universal O donors unless the isoagglutinins are of low titer by actual titration. Witebsky, Klendshoj and Swanson[5] suggested that isoagglutinins anti A and anti B may be neutralized by the addition of their homologous antigens to O blood in order to make it safer for universal donor transfusions. On the other hand many, including Rosenthal and Vogel[6] in a series of 819 cases, found no higher incidence of reactions than with homologous blood. However, universal donors were used only in urgent cases, and cross matching was usually done.

In order to overcome the reactions from this type transfusion, it has occurred to me that the use of pooled plasma with O cells would constitute a safer universal blood. Since O cells contain no agglutinogens nothing is to be feared from their use, provided proper typing is performed. Again, since the incidence of reactions from pooled plasma has been minimal (about 1 per cent), one may dismiss plasma as a source of unusual reactions. The combination of O cells with pooled plasma should make the ideal universal blood.

Obviously this procedure applies only to institutions with blood banks. On collection, after typing and Kahn testing, the bloods are centrifuged. Plasma is pooled from at least eight donors. Either the freshly pooled plasma can be added to the cells of type O (or other types if large pools are obtained), or stored, banked pooled plasma, the titer of which has been determined, may be added to the cells. The pooling diminishes the titer of the isoagglutinins mainly by dilution and to some extent also through neutralization of the isoagglutinins by group substances in solution. In either event there is no waste of red cells, since they are conserved with or in pooled plasma. In this way no typing of the recipient or cross matching would be necessary at any time when this combination of O cells and pooled plasma is used.

If the bank has sufficient donations of O cells these may be used with pooled plasma for whole blood transfusions or the cells may be used in saline or dextrose suspensions. Likewise the A, B and AB cells may be used if necessary in their respective blood groups if there is an insufficient supply of O cells. Additional O cells may be obtained from the Red Cross blood centers. At the expiration of the allotted time—seventy-two hours by some groups or seven to ten days or longer by others—the unused blood will yield pooled plasma for further use.

SUMMARY

The combination of O cells with pooled plasma constitutes an ideal and safer and economical medium of universal blood, because of dilution of agglutinins, than the indiscriminate use of ordinary universal O blood.

14 Fifth Avenue.

Dr. Linn J. Boyd, Director of Medicine, Metropolitan Hospital and New York Medical College, Flower-Fifth Avenue Hospital, and Dr. Louis Greenwald, in charge of hematology, assisted in the preparation of this paper.

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PHOSPHATES IN THE THERAPY OF CHEMICAL BURNS

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The use of a phosphate buffer for the treatment of burns caused by acidic or basic substances is suggested by the following considerations: The customary therapy of chemical burns has definite disadvantages, particularly when such sensitive tissues as the cornea are involved. In order to achieve rapid and penetrating neutralization of acids and bases, high concentrations of the antidote are required. This prerequisite for successful therapy is not fulfilled by the commonly used reagents, since they can be applied only in dilute solutions because of their unphysiologic nature.

As a further requirement for effective treatment it is essential to maintain the hydrogen ion concentration of the antidote at a physiologic level. The following examples illustrate that the aforementioned requirements are not at all satisfied by the therapeutic agents in general use: A 5 per cent solution of acetic acid, recommended in textbooks for the treatment of burns caused by strong alkali, has a p_H of about 2, whereas a 5 per cent solution of sodium bicarbonate, used heretofore for neutralizing acid burns, has a p_H of 9. As the physiologic p_H is approximately 7, it becomes evident that in the first case the hydrogen ion concentration is a hundred thousand times too high while in the second case it is a hundred times too low. Such deviations from biologically compatible limits are bound to result in harmful effects, especially in the treatment of delicate tissues as those of the eye.

In the past, chemical burns due to acids or bases required different antidotes. Therefore a knowledge of the chemistry of the toxic agent and a history supplied by the patient were indispensable. Since the immediate neutralization of the injurious chemical is the most important feature of the treatment, designed to reduce to a minimum penetration of the tissues, valuable time may have been lost in gathering the information mentioned. Future surgical or medical care may never restore what could have been saved by adequate, immediate treatment.

The phosphate buffer recommended here for the neutralization of chemical burns is prepared by dissolving 70 Gm. of monobasic potassium phosphate, KH_2PO_4, and 180 Gm. of dibasic sodium phosphate, $Na_2HPO_4.12H_2O$ in 850 cc. of water. The concentration of the solution thus obtained is molar with respect to phosphate, but as the phosphates are physiologically occurring substances they can be safely employed in such high concentrations. Thereby prompt neutralization of the offending chemical is insured without introducing new complications, at the same time limiting the degree of burn and the corresponding amount of scarring that usually results. The phosphate solution is neutral, $p_H = 7$, and, owing to its buffering action, the hydrogen ion concentration will always remain in the physiologic range. The fact that it can be used equally well for the neutralization of either acids or bases is demonstrated by the following examples:

(1) $Na_2HPO_4 + HCl \rightarrow NaH_2PO_4 + NaCl$
(2) $KH_2PO_4 + KOH \rightarrow K_2HPO_4 + H_2O$

From the George Herbert Jones Chemical Laboratory of the University of Chicago.

The Rockefeller Foundation has contributed to the support of the project in which this work developed.

Application of the concentrated phosphate buffer to a normal eye merely results in some hyperemia of the conjunctival tissue, which will disappear on the following day. Using a more dilute solution of the buffer would eliminate even this slight discomfort but would at the same time diminish the effectiveness of the antidote.

SUMMARY

1. Certain unphysiologic antidotes are much too acidic or alkaline for the treatment of vulnerable tissues.

2. Burns caused by acids or bases required a different treatment which necessitated a knowledge of the chemistry of the offending substance.

3. Phosphate buffer has none of these disadvantages. It is neutral in its reaction, can be employed safely in high concentration to assure rapid and penetrating neutralization and is equally well suited for the treatment of injuries caused by acidic or basic chemicals.

Special Article

AMERICAN HEALTH RESORTS

IMPORTANCE OF REST, EXERCISE AND DIETARY REGULATION IN THE SPA REGIMEN

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These special articles on spa therapy and American health resorts were prepared under the direction of the Committee on American Health Resorts. The opinions expressed are those of the authors and do not necessarily reflect the opinion of the committee. These articles may be published later as a Handbook on Health Resorts.

It is difficult to write a readable article about the obvious. Remove the three items mentioned in the title from a regimen and there remains no regimen either at a spa or at any other institution designed to preserve or promote health. There will be no references in this paper to the historical background of spas. This has been covered in another article. As for the literature, discussions of rest, exercise and diet in treatment occur over and over. When a spa regimen is mentioned these three items stand out. In textbooks on medicine, however, it is difficult to find references to a spa or a spa regimen. I have examined the 1941 edition of an excellent textbook of medicine.[1] One hundred and forty-four leading American physicians contributed to this volume. More space is devoted to discussions of treatment than was the practice in textbooks of medicine a few years ago. Even so, in the sixty pages of finely printed index I was unable to find the word spa or spas, although the words rest, exercise and diet in connection with the types of patients who go to spas occur frequently. Why not call a spa a spa?

WHAT IS A SPA?

A spa is an institution, built around a "mineral" spring or group of such springs, so equipped and staffed as to utilize the waters from these springs in conjunction with other therapeutic agencies for health purposes. The springs determine the location of spas, but it takes more than a group of springs to make a spa. The "other therapeutic agencies" are of great variety and will be referred to in other articles in this series, but a spa is not a spa without some of them. This article is concerned with three of the more important of these "therapeutic agencies."

WHO GOES TO SPAS?

Rest, exercise and diet will be discussed briefly as applied to the types of patients who patronize spas. For this purpose some attempt has been made to find out who goes to spas.

In general, patrons of spas consist of middle aged and elderly persons who are normal in health and want to remain so, and persons of the same age groups who are suffering from certain of the chronic diseases or convalescing from surgical operations or acute diseases.

A survey[2] covering the period from 1933 to 1936 inclusive made at an American spa classified the 6,315 patients treated during this period under the following headings on the basis of the patients' chief complaint: heart and circulatory disorders, including variations of blood pressure, 30.8 per cent; "rheumatic" conditions, including arthritis, myositis, fibrositis and neuritis, 23.7 per cent; gastrointestinal ailments, including those of the liver and gallbladder, 17.6 per cent; nervous conditions, including both functional and organic diseases, 8.4 per cent; metabolic diseases, including diabetes, obesity and endocrine disorders, 4.1 per cent; skin diseases (noninfectious), 2.1 per cent; miscellaneous, 3.2 per cent; no disease, including general debility, 10.1 per cent.

At another American spa[3] during the period from 1937 to 1941 inclusive the patients were classed as follows on the basis of the chief complaint or the patient's reason for seeking treatment at a spa: normal, 18.3 per cent; obese, 11.1 per cent; "rheumatic," 23.6 per cent; disorders of the nervous system, 10.5 per cent; disorders of the circulatory system, 11 per cent; disorders of the digestive system, 5 per cent; convalescents, 7.8 per cent; fatigue or exhaustion, 6.3 per cent; miscellaneous, 6.4 per cent. Efforts to get similar information from other spas so far have been unavailing, but with these figures in mind, even though the classes listed are not clearly defined, the question "Who goes to American spas?" is partly answered.

REST AND EXERCISE

Rest and exercise as applied to these groups in the spa regimen will be discussed together because, except for certain special exercises such as corrective exercises, and certain forms of local rest such as that obtained by splints or collapse therapy, rest and exercise are simply different degrees of the same thing—just like heat and cold. Absolute rest is analogous to absolute zero temperature and just about as difficult to attain.

For those normal persons who make up 10 to 20 per cent of spa patrons the importance of the proper balance of rest and exercise is admitted. In a recently published article by Piersol[4] this statement appears:

1. Cecil, Russell L.: A Textbook of Medicine by American Authors, edited by Russell L. Cecil, ed. 5, Philadelphia, W. B. Saunders Company, 1941.

2. McClellan, Walter S.: Report of a Survey Made at the Saratoga Spa and Presented in Form of a Chart at the Fifteenth Annual Meeting of the American Congress of Physical Therapy, September 1936.

3. From my own unpublished records, The Homestead, Hot Springs, Va.

4. Piersol, George Morris: The Value of Physical Therapy in Internal Medicine, J. A. M. A. 117: 1835 (Nov. 29) 1941.

"It is generally admitted that the proper kind and amount of physical exercise is essential for the maintenance of good health. In this country during the past fifty years the trend in exercise has been toward the less formal gymnastics, more sport activities and a decided increase in the employment of corrective exercise."

At a spa, exercise for the normal person is usually chosen from the great variety of "sport activities" available—walking on measured, scenic walking trails, golf, tennis, swimming, horseback riding, badminton or other outdoor sports. The kind and amount of such exercise determined on can be fitted easily into the patient's regimen. The degree of medical supervision of this exercise varies greatly from none at all at some spas to that conforming to a systematic program at others. In the supervision of the patient an important point is to protect an enthusiast in golf, tennis or other sport from becoming intemperate in his otherwise wholesome pastime. The patient's rest, like his exercise, should be regular as to time and sufficient in amount, as is the case with normal persons whether at spas or elsewhere. "Opportunity for an abundance of rest is the secret back of the success of many resorts and is a feature *par excellence* that all spas should offer." [5] Spas provide the setting and the facilities for carrying out a well balanced program of rest and wholesome exercise away from the scene of the person's usual activities.

Rest and Exercise for Arthritic Patients.—Approximately 1 patient in 4 who seeks treatment at spas is a victim of one of several maladies, often grouped under the heading "rheumatic disease." Most of these patients suffer from atrophic or hypertrophic arthritis. Some suffer from the articular manifestations of gout. Victims of tuberculous arthritis, acute infectious arthritis and acute rheumatic fever go to spas only by mistake. For purposes of this article the rarer forms of arthritis may be ignored and the discussion limited to atrophic and hypertrophic arthritis.

Physicians may differ as to details in the treatment of these two forms of arthritis, but in the emphasis placed on rest there is general agreement. This applies to local rest of the involved joints and to general physical and mental rest. In the active stage of atrophic arthritis, local rest and the prevention of deformity may be obtained by the use of splints. It is my opinion that a spa is not the best place to treat a patient whose disease is so active as to require a splint, though it can, of course, be done. It is in the field of general physical and mental rest that spas have much to offer.

Definitely prescribed periods of rest constitute an important part of the regimen of all arthritic patients at spas, and many spas provide a suitable environment for obtaining such rest away from the stress and strain of business, home and family responsibilities.

Exercises make up an important part of the regimen of arthritic patients who go to spas. Passive exercises are often used to maintain mobility of the joints of patients suffering from atrophic arthritis. These are usually preceded by the application of heat and sometimes massage. The heat may be given as a hot bath, or in some instances active and passive exercises are given while the patient is under water. Limitation of articular motion is not so pronounced in hypertrophic as in atrophic arthritis, and mobility can be maintained more easily. The amount and intensity of exercise suitable for patients suffering from arthritis will depend on the activity of the disease and the general condition of the patient. As a rule any exercise which results in undue fatigue or pain does more harm than good. The better equipped spas have attendants trained to give these exercises intelligently. The mechanical apparatus with which some spas are supplied is of little practical use in providing suitable exercises for arthritic patients.

Rest and Exercise for Obese Patients.—An undetermined number of patrons of spas seek treatment solely because they are overweight. In my own practice slightly more than 11 per cent belong to this group. In addition to the patients who seek treatment solely because they are overweight there are many others who are actually overweight but who go to spas for other reasons. Many patients seeking treatment for arthritis, cardiovascular disease, nervous disorders and other troubles are definitely overweight. When all of these are taken into account it is readily seen that control of weight—which usually means reduction of weight—is a most important item in the regimen of a spa. A few patients who are overweight because of endocrine abnormalities do go to spas, but in my opinion their problems can be solved better elsewhere.

With few exceptions the reduction of body weight depends on the restriction of caloric intake and the stimulation of metabolism. Restriction of caloric intake is purely a matter of control of diet. Stimulation of body metabolism may be accomplished by exercises, baths and drugs. Cold baths will stimulate metabolism, and hot baths of sufficient degree and duration to raise body temperature will increase metabolism. It is my opinion that baths of either type are of minor importance in a weight reducing regimen. Diet will be discussed later, and drugs will be disposed of by pointing out that the dangers involved in the use of such drugs as dinitrophenol or the misuse of thyroid have no place in a spa regimen for the type of patients under discussion.

As for exercises as a means of stimulating metabolism, it can be said that spas provide a wide choice of them under conditions which minimize the drudgery of exercise for that not inconsiderable number of people to whom it is a drudgery. In addition to the wholesome "sport activities" mentioned previously, some spas are equipped with mechanical apparatus such as vibratory and percussion devices, rowing machines and stationary bicycles for both the active and the passive exercise of the voluntary muscles. The use of the vibratory and percussion devices may serve as a substitute for manual massage, over which it has no demonstrable advantages. It has not been demonstrated that even heavy massage—mechanical or manual—will remove deposits of adipose tissue. Such treatment when applied to the abdomen may even be dangerous. The mechanical apparatus for active exercises does supply the necessary incentive to certain types of patients to take needed exercise which would not be taken otherwise. In my opinion, to this degree only does such apparatus serve a useful purpose in a weight reducing regimen.

5. Wallace, Albert W.: The Modern Health Resort, J. A. M. A. 106: 419 (Aug. 8) 1936.

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Rest and Exercise for Patients Suffering from Cardiovascular Disease.—At one American spa slightly more than 30 per cent of the patients suffer from some disorder of the circulatory system. In no large group of patients is the proper regulation of rest and exercise more important. Almost without exception, when the treatment of cardiovascular disease is discussed emphasis is placed on the proper kind and amount of rest needed. The patients suffering from cardiovascular disease who go to spas are usually those who have a chronic disease or who are convalescing from an acute disease. For this reason those spas to which such patients go should be adapted by virtue of their natural resources for patients of this type and staffed by physicians and technicians who are qualified to direct and handle them. It goes without saying that not all spas are so adapted and staffed.

In articles on the subject, such statements as these are found: "The matter of rest periods is one of the first things to be discussed . . . some patients spend one period of twenty-four hours a week in bed. . . . It [a spa] endeavors to teach a suitable way of living for the individual and has to do largely with rest, relaxation, exercise, diet and the teaching of a calm philosophical outlook in general and upon the cardiovascular handicap in particular."[6] Some physicians of spas "point out that the spa treatment rarely if ever consists solely of drinking or bathing in spring water, but that many other factors, such as rest, diet, exercise, diversion and climate, play a definite part."[7] "The types of physical therapy indicated in cardiovascular disease are rest, voluntary exercise, . . ."[8] Finally, "Physical therapy in vascular disease is most often beneficial when given in an environment far removed from the patient's usual surroundings."[8]

It is said that "hearts are bettered for taking some part of the amount of exercise which they can tolerate without embarrassment."[6] Systems of exercises have been worked out to provide for this. The Stokes-Oertel graduated hill climbing exercise is an example. This is often combined with restriction of intake of fluids and reduction of body weight by dietary control. A system of resistant exercises for patients suffering from chronic heart disease was developed by Dr. Theodor Schott and his brother August. This originated at a spa—Bad Nauheim—and is still in good repute with internists who are familiar with it. Spas equipped to treat patients suffering from chronic cardiovascular disease provide other suitable means for exercise. Walking trails accurately measured with reference both to distance and to grade enable the physician to give specific directions to his patients regarding exercise. Sports suited to the requirements of such patients are provided. These may include games requiring little physical exertion, such as croquet, or those requiring more effort, such as golf. Even the golf course may be designed for patients suffering from chronic cardiovascular disease, that is, be comparatively level throughout, as is the case at one American spa, whose golf course does not contain any grade exceeding 4 per cent. It has been referred to as a "therapeutic golf course."

6. Comstock, C. R.: Convalescence in Coronary Disease, with Special Reference to Saratoga Spa. Bull. New York Acad. Med. **16**: 546-549 (Aug.) 1940.
7. Gorham, L. W.: The Place of Spas in the Treatment of Chronic Diseases, New York State J. Med. **31**: 402-405 (April 1) 1931.
8. Stroud, W. D., and Comstock, C. R.: Principles and Practice of Physical Therapy, edited by Pemberton, Mock and Coulter, Hagerstown, Md., W. F. Prior Company, vol. 1, chapter 13, p. 27.

Enough has been written to indicate the attention given to detail at some spas in providing for the rest and exercise which play so important a role in the regimen of these patients. The effectiveness with which such facilities are utilized depends on the quality of the medical direction just as the effectiveness of any other therapeutic agent depends on the skill, judgment and integrity of the physician who directs its application.

Rest and Exercise for Other Patients.—About two thirds of spa patrons are included in the groups already discussed. The remaining third—those who suffer from disorders of the nervous system, disorders of the digestive tract, fatigue or exhaustion, and others listed as miscellaneous—will not be discussed in detail. The regimen for such patients will have to be individualized. Since they are all convalescents or suffering from chronic disease, it is obvious that any such regimen would include scheduled, planned rest and exercise. Spas are well suited to provide such a regimen in an environment conducive to the patient's feeling of well being. Between 5 and 10 per cent of patrons of spas go to them merely because they are tired. Many others listed under other headings who go to spas are tired but are not aware of it. These patients usually suffer from nervous and mental fatigue. The mere act of getting away from home or business affords such patients rest of the kind needed. With the restful atmosphere which should prevail and with the wide range of types of exercises from which to choose a suitable regimen with reference to rest, exercise and diet can be adjusted to the needs of these patients if competent medical direction is provided. Failure is more likely to result from lack of medical direction than from other factors involved.

DIET

I am convinced that the therapeutic measure most frequently advised by physicians is rest. I am convinced also that a thought uppermost in the minds of patients who go to spas—and one about which there is much confusion—centers around matters pertaining to diet. There are reasons why diet should be a matter of concern. Not the least of these is the fact that most people are confronted with it three or more times daily year in and year out. There are reasons for confusion in the lay mind about such matters. It is not necessary to itemize the reasons, but that confusion is widespread I am sure no physician will doubt. When a patient at a spa says "I have been on a very strict diet," a little questioning as to what he—or more often she—means by a strict diet will usually elicit one of the following replies: "I don't eat white bread," "I don't eat potatoes," "I don't eat red meat" or "I don't eat desserts." I should say that, with the exception of carefully instructed patients suffering from diabetes, those suffering from peptic ulcer who have been well handled and those treated for allergy, this is not an exaggerated picture of the lay conception of what is meant by a "strict diet."

Detailed discussion of the diet for each type of patient who goes to spas cannot be given here. I believe it will not be denied that control of diet is an important item in the regimen of such patients. Physicians at spas have access to the same sources of information in dietetics both in health and in disease as do physicians generally. Control of diet is a matter of applying available knowledge to patients who happen to be at spas.

For the 10 to 20 per cent of normal persons who go to spas the diet should be that for normal persons under similar conditions of activity elsewhere. The discussion of the diet for a normal man or woman does not belong here.

For the 25 per cent of patients of spas who suffer from arthritis the diet should be that adapted to the individual needs of the same type of arthritic patient whether he is at a spa or elsewhere. Books, sections of books [9] and numerous articles have been written on just what such a diet should be. The prescribing physician has to exercise the same discretion that he is called on to exercise in many other situations. Dr. Walter Bauer made an analysis of the various types of diets proposed for arthritic patients. Familiarity with the contents of his article [10] will prove helpful in keeping the prescribing physician properly oriented.

For the undetermined but large number of people at spas who are overweight, control of diet is by far the most important consideration. The principles governing control of diet at spas do not differ in any essential way from similar methods elsewhere. A regimen which includes suitable control of diet along with regulated exercise will prove effective in the reduction of surplus weight. Such a regimen can be carried out at spas without the use of drugs, excessive sweating, purging or other forms of dehydration. The success and safety of the regimen will depend on the adequacy of the medical supervision. "Mineral waters, except for possible laxative effects, have no peculiar virtue" [11] in a reducing regimen.

For that other large group of patients of spas—patients suffering from cardiovascular diseases—the diet, for the most part, is directed toward the control of weight. In some cases the intake of fluids and mineral salts has to be taken into account. A spa organized for the care of such patients usually provides physicians capable of guiding them in such matters.

For the remaining third of patients who go to spas the diet should be adjusted to the individual needs of each patient. In the well organized spas this usually can be done. Except for the rest he might get, there is no reason for a patient who has a duodenal ulcer to go to a spa; but, should he go, there is no reason why he should not be able to carry out his dietary program. The same applies to patients who have diabetes, disease of the gallbladder, "colitis" or an irritable colon, and so for the others. It all boils down to the same thing. It is this: The principle governing dietary measures are the same for a given type of human being whether he happens to be living at a spa, in a hospital or at home. Since a large number of patients suffering from a great variety of chronic diseases do go to spas—whether they should or should not is beside the point—it means that if spas are to maintain a standard at which they can command the confidence of the medical profession they must provide medical supervision and control of such quality as to guide these patients properly in health matters whether they pertain to rest, exercise, diet or any other "therapeutic agent."

Dietary fads should not have any place in the regimen of a spa.

9. Pemberton, Ralph: Arthritis and Rheumatoid Conditions, Philadelphia, Lea & Febiger, 1929.
10. Bauer, Walter: What Should a Patient with Arthritis Eat? J. A. M. A. 104:1 (Jan. 5) 1935.
11. McLester, James C.: Nutrition and Diet in Health and Disease, ed. 3, Philadelphia, W. B. Saunders Company, 1939, p. 443.

Council on Medical Service and Public Relations

THE COUNCIL HAS AUTHORIZED THE PUBLICATION OF THE FOLLOWING STATEMENT. J. W. HOLLOWAY JR., Acting Secretary.

A STATEMENT OF GENERAL POLICIES

Pursuant to carrying out the duties imposed on it by the House of Delegates, the Council has adopted the following general policies:

1. The Council on Medical Service and Public Relations recognizes the desirability of widespread distribution of the benefits of medical science; it encourages evolution in the methods of administering medical care, subject to the basic principles necessary to the maintenance of scientific standards and the quality of the service rendered.

It is not in the public interest that the removal of economic barriers to medical service should be utilized as a subterfuge to overturn the whole order of medical practice. Removal of economic barriers should be an object in itself.

It is in the public interest that the standards of medical education be constantly raised, that medical research be constantly increased and that graduate and postgraduate medical education be energetically developed. Curative medicine, preventive medicine, public health medicine, research medicine and medical education all are indispensable factors in promoting the health, comfort and happiness of the nation.

2. The Council through its executive committee and secretary shall analyze proposed legislation affecting medical service. Its officers are instructed to provide advice to the various state medical organizations as well as to legislative committees concerning the effects of the proposed legislation. It shall likewise be the duty of its officers to offer constructive suggestions to bureaus and legislative committees on the subject of medical service.

3. The Council approves the principle of voluntary hospital insurance programs but disapproves the inclusion of medical services in those contracts for the reasons adopted by the House of Delegates at the 1943 meeting.

4. The Council approves voluntary prepayment medical service under the control of state and county medical societies in accordance with the principles adopted by the House of Delegates in 1938. The medical profession has always been strongly opposed to compulsory health insurance because (1) it does not reach the unemployed class, (2) it results in a bureaucratic control of medicine and interposes a third party between the physician and the patient, (3) it results in mass medicine which is neither art nor science, (4) it is inordinately expensive and (5) regulations, red tape and interference render good medical care impossible. Propaganda to the contrary notwithstanding, organized medicine in general, and the American Medical Association in particular, have never opposed group medicine prepayment or group medical practice as such. The American Medical Association and the medical profession as a whole have opposed any scheme which on the face of it renders good medical care impossible. That group medicine has not been opposed as such is evidenced by the fact that there are many groups operating in the United States which have the approval of the medical profession, and members of these groups are and have been officials in the national and state medical organizations. That group medicine is the Utopia for the whole population, however, is not probable. It may be and possibly is the answer for certain communities and certain industrial groups if the medical groups are so organized and operated as to deliver good medical care.

5. The Council believes that many emergency measures now in force should cease following the end of hostilities.

6. The Council believes that the medical profession should attempt to establish the most cordial relationships possible with allied professions.

7. There is no official affiliation between the American Medical Association and the National Physicians Committee.

However, since it is the purpose of the National Physicians Committee to enlighten the public concerning contributions which American medicine has made and is making in behalf of the individual and the nation as a whole, it is the opinion of the Council that the medical profession may well support the activities of the National Physicians Committee and other organizations of like aims.

8. American medicine and this Council owe a responsibility to our colleagues who are making personal sacrifices to answer the call of the armed forces. Therefore the Council expresses the desire to cooperate with the medical committee on postwar planning in order to assist our colleagues in reestablishing themselves in the practice of medicine and in the preservation of the American system of medicine.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

AUSTIN E. SMITH, M.D., Secretary.

ASCORBIC ACID (See New and Nonofficial Remedies, 1943, p. 600).
The following dosage forms have been accepted:
AMERICAN PHARMACEUTICAL CO., INC., NEW YORK
Ascorbic Acid *(Crystals):* 1 ounce and 5 ounce packages.
Tablets Ascorbic Acid: 25 mg., 50 mg. and 100 mg.

NICOTINIC ACID (See New and Nonofficial Remedies, 1943, p. 596).
The following dosage forms have been accepted:
AMERICAN PHARMACEUTICAL CO., INC., NEW YORK
Nicotinic Acid *(Powder):* 1 ounce, ¼ pound and 1 pound packages.
Tablets Nicotinic Acid: 25 mg. and 100 mg.

PENTOBARBITAL SODIUM (See New and Nonofficial Remedies, 1943, p. 495).
The following dosage form has been accepted:
THE WARREN-TEED PRODUCTS CO., COLUMBUS, OHIO
Capsules Pentobarbital Sodium: 0.1 Gm.

SULFATHIAZOLE (See New and Nonofficial Remedies, 1943, p. 182).
The following dosage form has been accepted:
GEORGE A. BREON AND COMPANY, KANSAS CITY, MO.
Sterators Sterile Sulfathiazole *(Crystals):* 5 Gm.

SULFANILAMIDE (See New and Nonofficial Remedies, 1943, p. 175).
The following dosage form has been accepted:
GEORGE A. BREON AND COMPANY, KANSAS CITY, MO.
Sterators Sterile Sulfanilamide *(Crystals):* 5 Gm.

DIGITALIS (See New and Nonofficial Remedies, 1943, p. 289).
The following additional dosage form has been accepted:
JOHN WYETH & BROTHER, INC., PHILADELPHIA
Capsules Digitalis Leaf Defatted: ½ U. S. P. Unit.

MAGNESIUM TRISILICATE (See New and Nonofficial Remedies, 1943, p. 369).
The following dosage form has been accepted:
BURROUGHS WELLCOME & CO., INC., NEW YORK
Tablets Magnesium Trisilicate: 0.486 Gm.

EPHEDRINE SULFATE (See New and Nonofficial Remedies, 1943, p. 256).
The following dosage form has been accepted:
BURROUGHS WELLCOME & CO., INC., NEW YORK
Solution Ephedrine Sulfate, 3 per Cent: Preserved with chlorobutanol 0.5 per cent; 1 fluidounce and 1 pint bottles.

Council on Foods and Nutrition

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.
JAMES S. MCLESTER, Chairman.

SCOPE OF COUNCIL

The passage of the Federal Food, Drug and Cosmetic Act, June 25, 1938, greatly strengthened the power of the federal government to deal with the labeling of foods, drugs and cosmetics, the maintenance of standards of quality and related problems. Many of the activities of the American Medical Association's Council on Foods and Nutrition have dealt with such questions. These activities were initiated and carried on by the Council at the home office of the American Medical Association as a public service. The well known seal plan of the Council was devised as a means of encouraging firms to secure as much scientific information as possible concerning their products, to label these products honestly and informatively, and to advertise them in ways that avoid all misleading implications. The success with which all of this has been done is readily evident to any one who will undertake an examination of the Council's book Accepted Foods, published in 1939, in which are listed 1,653 firms whose 2,706 individual products carried the seal at that time. The Council wishes to record its appreciation of the willingness of these firms to cooperate in the wording of their labels and their advertising and in the maintenance of high standards of quality in recognition of which the Seal of Acceptance was given.

For some time the Council has had under advisement the question of limitation of its scope of activities. Various reasons have operated to cause this, but the most cogent one has been the passage of the Food, Drug and Cosmetic Act, and the continued advance which the Food and Drug Administration has been able to make under this act in establishing standards of identity for various foods and rules regarding the labeling of them. At its annual meeting held July 23 in Chicago the Council finally took action to limit the number of specific products eligible for the seal. It was voted to restrict the use of the seal to "special purpose" foods, which may be defined as "any food promoted for a special group of the population in relation to health, growth and development." Familiar examples of special purpose foods would be those prepared especially for babies, and products designed for feeding invalids. Products that may be valuable, but which are offered for use by the population in general, are classified as "general purpose" foods, and under the action voted by the Council are, with perhaps a few exceptions, outside its scope and therefore will no longer be considered for the seal. It is evident that by its action the Council has signified that, so far as the use of the seal on individual products is concerned, it intends to devote its attention particularly to foods that stand in very definite relation to specific medical and health problems. The current popular interest in the science of nutrition, stimulated in considerable part by the war, the nutrition program of agencies of the government, the Red Cross and other organizations, can no doubt be relied on to develop interest in the greater use of more valuable foods by the population at large. The Council also voted, however, to consider what might at first sight appear to be exceptions to this category of special purpose foods if such action seems desirable and in the public interest. The wording of this part of the motion is as follows: "Except that the Council may, under special circumstances, consider the acceptance of any product when its nutritional importance or the claims made for it seem significant for the public health." Thus the Council has signified its continued freedom of action to deal with any food product if such action is deemed especially important.

Firms whose "general purpose" foods now carry the seal are allowed the period of one year from date of publication of this notice during which to dispose of their supply of remaining labels now carrying the seal.

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SATURDAY, NOVEMBER 6, 1943

EPIDEMIC HEPATITIS, OR CATARRHAL JAUNDICE

Until recently there has not been essential modification of the original concept of catarrhal jaundice advanced by Bamberger in 1855 and supported by Virchow in 1865. Now, however, numerous clinically similar cases have appeared in epidemic proportions in troops and in civilian groups in almost all countries. Study of these events has resulted in a reconsideration of the basic interpretations. Formerly the initial lesion in this disease was considered a gastroduodenitis followed by spread of "catarrh" to the epithelium of the bile ducts which thereby produced obstructive jaundice. The occurrence of a biphasic van den Bergh reaction stimulated doubts of this simple explanation and suggested that damage of the liver must be present either alone or in combination with biliary obstruction. This altered theory has given rise to a changed nomenclature in which the term epidemic hepatitis or infective hepatitis (the former probably being preferable) has tended to replace the older term of catarrhal jaundice.

Cameron [1] reports studies at two army general hospitals in Palestine during 1940 and 1941, when "infective hepatitis" was epidemic among the troops. The clinical picture of the disease developed in collaboration with Colville is based on the clinical records of 170 cases. The minimum incubation period is apparently thirty-two days, but in many cases much longer. The initial stages of the disease resemble sand fly fever, although in epidemic hepatitis the headache is less intense and the characteristic pain behind and on movement of the eyes found in sand fly fever is here lacking. Initial severe anorexia is a striking and almost diagnostic feature. Disinclination for smoking is common; nausea is frequent but vomiting unusual. Abdominal discomfort, with a tendency to constipation rather than diarrhea, occurs frequently. Fever was present in all cases observed during the preicteric stage; usually it is of a regular type varying between 99 and 103 F. and continuing for three to six days, when jaundice appears. With the development of jaundice the initial symptoms rapidly subside. The depth of jaundice varies from a light coloration of the conjunctiva to a deep icterus involving the whole body. It lasts an average of twenty-one days, reaches a maximum intensity at five days and has a range varying from five to seventy-two days. Bradycardia occurs as soon as the development of jaundice, but this is not diagnostic since it seems to accompany almost all virus infections. Transient enlargement of the liver was noted in 97 of the 170 cases. There was a scattering of other signs or symptoms, the most frequent being splenic enlargement, which was encountered in 46 cases. Five points are of major importance for diagnosis in the preicteric stage: anorexia, abdominal discomfort with or without hepatic enlargement and tenderness, absence of leukocytosis, increased urobilinogen in the urine, and histamine wheal test for latent jaundice. Deaths did not occur in the entire series; most patients recovered in thirty-five days. Treatment should include isolation of the patient and a minimum of one month hospitalization. The presence of clay colored feces was considered an indication for a low fat and cholesterol diet; in cases in which the feces remained persistently pale, bile salts were given so that fat could be introduced into the diet. All patients must refrain from alcohol for a minimum period of three months on the theory that alcohol lowers the resistance of the liver.

The infection is believed to be due to a virus. A number of animal inoculation experiments have been made and several attempts to transmit the disease by insect vectors. Van Rooyen and Gordon [2] obtained bile and stomach washings from 10 patients and fed large volumes of each specimen to animals. The animals employed were mice, white rats, jerboas, rabbits, guinea pigs, monkeys, Abyssinian baboons, a young pig and 3 kittens. In addition blood containing 1 per cent sodium citrate which had been withdrawn in 20 proved cases was introduced into each of these animals by various routes—subcutaneously, intravenously, intraperitoneally, intracerebrally, intratesticularly and intracorneally. Definite results were not obtained. Similar experiments were also performed by Cameron: Samples of blood were withdrawn from patients as soon as possible after diagnosis. Part of the blood was allowed to clot, but sodium citrate was added to the larger portion. Monkeys, guinea pigs, dogs, mice, rats and hamsters were employed as the experimental animals. Some of the animals received whole blood or plasma without further treatment. For others a leukocytic fraction was prepared by centrifugation of the citrated blood for an hour, the resulting sediment being then suspended in saline solution and injected. Careful clinical observations, blood counts

1. Cameron, J. D. S.: Quart. J. Med. 12:139 (July) 1943.

2. Van Rooyen, C. E., and Gordon, Ian: J. Royal Army M. Corps 79:19 (Nov.) 1942.

and temperature charts were made. In the guinea pigs alone some suggestive observations were recorded, including leukopenia appearing five to twenty days after injection in all of them. One animal showed necrosis of liver cells and round cell infiltration of the portal tract. Because of the simultaneous occurrence of jaundice in horses it has been necessary to exclude piroplasmosis as a cause of human hepatitis. Cameron reports experiments carried out by Captains Colville and Hynds in which 6 horses were injected with blood or serum from 6 patients with hepatitis. Repeated blood counts and close veterinary observation failed to reveal any effects.

It is agreed by Cameron, by Van Rooyen and Gordon and by others that jaundice may or may not be present in this disease. Van Rooyen and Gordon did not observe indications of obstruction or catarrh of the bile passages and therefore believe that the jaundice is toxic and due primarily to damage of the liver parenchymal cell. All are agreed that this disease is highly contagious and emphasize the necessity for treating it as a serious liver disease and one in which lowered general resistance such as that which occurs so commonly in military campaigns is a predisposing factor. Much further work is needed in order to determine the responsible agent, the mode of spread and possible relations to certain animal diseases.

THE IRRITANT EFFECT OF CATGUT

The irritant effect of catgut on living tissues has been commented on in a previous editorial [1] in THE JOURNAL. The clinical experience of Halstead, Jenkins, Kraissl, Whipple and others and the experimental demonstration by Meleney stress this undesirable effect of surgical gut as compared with some of the nonabsorbable suture materials. These observers believed that the irritating effect was due to the catgut per se. Halstead believed that buried catgut serves as culture medium for saprophytic organisms which are carried into it from the deep epithelium and the follicles of the skin. Kraissl demonstrated the possibility of an allergic reaction to catgut in a patient with edema of the edges and disruption of the abdominal wall. The irritant effect manifests itself in the wound by induration, redness, serum formation, lowered tissue resistance with increased susceptibility to infection from organisms introduced at operation or from the blood stream, and retardation of healing.

The recent experiments by Dunham and Jenkins,[2] however, establish that it is the tubing fluid in which the catgut is kept that is responsible for the irritating effect. Surgical catgut has customarily been provided in glass tubes with either an anhydrous hydrocarbon liquid for boilable catgut or an alcoholic solution for nonboilable gut. The anhydrous boilable tubing fluids have generally been xylene. These investigators state that the alcoholic solutions of numerous products examined by them contain appreciable quantities of hydrocarbon, which they believe is a residuum from the heat sterilization process, not removed during the process of manufacture before the alcoholic solution was added and the tube sealed. They believe this to be a common factor for the catgut, regardless of whether it was boilable or nonboilable. Their experiments clearly demonstrate that a fairly substantial part of the tissue irritation characteristic of catgut is due to the irritant hydrocarbon carried into the tissues with the gut. The presence of alcohol in the gut from nonboilable tubing fluid or from dipping boilable gut in 70 per cent alcohol to induce pliability contributes in part to the tissue irritation. However, they believe that the action of the alcohol is of secondary importance. They also found that those products which were characterized by excessive exudate and profuse polymorphonuclear leukocytic invasion of surrounding tissues generally had a high hydrocarbon content of the tubing fluid. They further suggest that the polymorphonuclear leukocytic response, which in their previous experiments was shown to hasten the onset of the mechanism of absorption, is probably induced by the extraneous tubing fluid irritants rather than by the catgut per se. Once this leukocytic mechanism of absorption has started to break down the catgut, it is not unlikely that the products of breakdown may further act as irritants to the tissues, so that the irritation inaugurated by the tubing fluid may be enhanced or prolonged. The combination of these two factors may be important in the tissue reaction to catgut.

Analytic study by Sidwell [3] of the American Medical Association Chemical Laboratory demonstrated the presence of up to 14 per cent of the water insoluble liquid aromatic hydrocarbons present in some of the samples of the nonboilable surgical gut tubing fluids examined. The physical and chemical properties of the water insoluble materials isolated from various specimens led to the conclusion that the tubing fluid contains material closely related to a coal tar distillate known as "xylene fraction" or solvent naphtha. . Jenkins and Dunham [4] conclude that, from the point of view of obtaining optimum wound healing in surgery, the introduction of tubing fluid irritants into the tissue with suture material is not in the best interests of the patient or the surgeon. The elimination of tubing fluid irritants from surgical gut should result in better clinical results with the use of absorbable suture material.

1. The Renaissance of Silk in Surgery, editorial, J. A. M. A. 113: 1417 (Oct. 7) 1939.
2. Dunham, C. L., and Jenkins, H. P.: Surgical Gut (Catgut) Tubing Fluid as a Tissue Irritant, Ann. Surg. 118: 269 (Aug.) 1943.
3. Sidwell, A. E., Jr.: Hydrocarbon Content of Nonboilable Surgical Gut Tubing Fluids, Ann. Surg. 118: 285 (Aug.) 1943.
4. Jenkins, H. P., and Dunham, C. L.: Irritant Properties of Tubing Fluids as a Factor in the Tissue Reactions Observed with Surgical Gut (Catgut), Ann. Surg. 118: 288 (Aug.) 1943.

MULTIPLICATION OF BACTERIOPHAGE IN ANIMAL TISSUES

Bacteriophage lysis is inhibited by blood, serum, leukocytes, bile and tissue débris. Many bacteriologists have concluded, therefore, that bacteriophage would necessarily be an ineffective therapeutic agent in most regions of the animal body. This conclusion apparently is premature, as shown by recent demonstrations of the multiplication of bacterophage in chick embryos [1] and in infected brain tissues of white mice.[2] In both cases the proliferation is associated with positive therapeutic effects.

The chorioallantoic membrane of the developing chick embryo is a useful medium for the cultivation of many viruses and bacteria. Weil and Volentine,[3] for example, showed that Bacterium shigae will proliferate on this membrane and will usually cause death of the embryo in from two to four days; increase in the bacterial count is demonstrable as early as five hours after the bacillus is placed on the membrane. At this five hour period the Rakietens [1] introduced 0.1 cc. of the corresponding anti-Shiga phage on the infected membrane. This reduced the usual mortality rate from 100 per cent to 25 per cent. Examination of egg material collected from the survivors showed a uniformly increased titer of bacteriophage. The conclusion must be that antidysentery bacteriophage does multiply (or is multiplied) in living tissues and does result in local sterilization of the tissues.

Somewhat more detailed studies of the same phenomenon have just been reported by Dubos [2] of Harvard University, who made use of the experimental disease resulting from intracerebral inoculation of dysentery bacillus in white mice. This disease takes the form of a meningitis, which is usually fatal in from three to ten days. Extensive multiplication of the Shiga bacillus takes place in the infected brain without a generalized septicemia.

In preliminary tests Dubos found that anti-Shiga bacteriophage introduced intraperitoneally into normal mice can be detected in the brain within one hour after injection. The concentration of bacteriophage per gram of brain, however, is invariably much less than the concentration in the blood stream. In mice infected intracerebrally with the Shiga bacillus there is in contrast an apparent rapid and massive elective localization of the bacteriophage in the infected brain tissues, the concentration being much higher than in the blood stream. The high titer in the brain cannot be accounted for solely as a result of elective localization of circulating bacteriophage but implies a local multiplication of particles of bacteriophage.

Dubos also found that intraperitoneal injection of a sufficiently large dose of active bacteriophage reduces the mortality rate from 96.4 per cent to 28 per cent in Shiga infected white mice. The control mice were treated with the same doses of heat inactivated bacteriophage or with bacteriophage free Shiga autolysate. The minimum dose of bacteriophage necessary to produce these therapeutic effects was not determined. It was shown, however, that one million particles of bacteriophage (plague count) injected intraperitoneally were without demonstrable therapeutic effects. Dubos's routine therapeutic dose was ten billion bacteriophage particles injected intraperitoneally. This was contained in about 1 cc. of phage lysed Shiga filtrate. This mouse dose would be roughly equivalent to 3 liters of bacteriophage filtrate for a 150 pound (68 Kg.) man. Whether or not the bacteriophage would be more effective if injected directly into the brain tissues has not yet been determined.

1. Rakieten, Tony L., and Rakieten, Morris L.: J. Bact. 45:477 (May) 1943.
2. Dubos, René J.; Strauss, June H., and Pierce, Cynthia: J. Exper. Med. 78:161 (Sept.) 1943.
3. Weil, A. J., and Volentine, J. A.: Proc. Soc. Exper. Biol. & Med. 44:160 (May) 1940.

THE GENERAL MEDICAL COUNCIL OF GREAT BRITAIN AND "INFAMOUS CONDUCT IN A PROFESSIONAL RESPECT"

In a lecture delivered to the staff and students of Guy's Hospital Medical and Dental School, Sir Herbert Lightfoot Eason,[1] president of the General Medical Council, pointed out that the lay press in Great Britain has not thus far learned to differentiate between the British Medical Association and the General Medical Council. This incidentally is a difference not clear to many American physicians. The British Medical Association is a body established by the medical profession, whereas the General Medical Council was appointed primarily for the benefit of the public.

The short preamble to the Medical Act of 1858 sums up the function of the Medical Council: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified medical practitioners." The council distinguishes between the qualified and the unqualified practitioner, although it does not debar the unqualified practitioner from the practice of medicine and surgery.

The General Medical Council performs two functions. In exercising its educational function it inspects all the qualifying examinations of the licensing bodies and issues recommendations as to amendments to the curriculum. It does not impose any restriction on the intellectual freedom of the registered medical practitioner. He may hold any view in medicine or surgery that he prefers; there are, however, certain restrictions as to his conduct. These restrictions are included in section 29 of the act and constitute the second important function of the council. Information as to misconduct

1. Eason, H. L.: "Infamous Conduct in a Professional Respect": What a Practitioner May and May Not Do, Guy's Hosp. Gaz. 57:147 (July 10) 1943.

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on the part of any doctor is forwarded to the council from every magistrate's court, every court of justice and every police office in the kingdom. While the council records every offense or conviction against medical practitioners, its principal interest is in that which relates to "infamous conduct in a professional respect." Such conduct has been defined by Lord Justice Lopes as follows:

> If a medical man in the pursuit of his profession has done something with regard to it which will be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute and competency, then it is open to the General Medical Council if that be shown to say that he has been guilty of infamous conduct in a professional respect.
>
> The question is not merely whether what a medical man has done would be an infamous thing for any one else but a medical man to do. He might do an infamous thing which would be infamous in any one else, but if it is not done in a professional respect it does not come within section 29.

The particular section lists the following offenses which are considered as "infamous conduct in a professional respect": signing certificates which do not meet with the particular requirements, assisting unqualified practitioners in treatment of patients and drunkenness. The last named offense appears to be the most common "crime" and is particularly serious if a practitioner is found to be drunk while driving a car.

Of special interest are three offenses which are grouped as the "three A's": Advertising, Abortion and Adultery. Advertising is not permitted; the prohibition includes such types of advertising as newspaper interviews with a doctor, who may be referred to as "a distinguished surgeon" or "a well known physician." As to abortion, it is emphasized that, whatever views one holds regarding it, under the laws of Great Britain abortion is a felony which is punishable by terms of penal servitude. The General Medical Council takes the attitude that the council is no judge of morals and that its function is not to punish the members of the medical profession but rather to protect the public. Adultery per se would not be considered "infamous conduct in a professional respect," and the General Medical Council takes no note of adultery as such. If, however, it is adultery with a person who is a patient, the wife of a patient or the member of a patient's family, then the council may say that the doctor has abused his position of trust. The sincerity of this statement is evident from the advice Sir Eason offers, which is "If you must have irregular relationships with women, you should keep those relationships away from the professional side of your life."

Like most English institutions, the General Medical Council has considerable legal authority but derives most of its power from its moral authority. It has succeeded in molding the British medical profession into an organic whole without at the same time interfering with the healthy rivalry and individualism of the various educational institutions. The council controls the standards of medical education by its power to represent to the Privy Council that a licensing authority should have its license revoked because its teaching and its examinations are not sufficient, and the council would take the same step if any licensing body should attempt to impose any particular theory of medicine or surgery. The council may require information to discover these points and may appoint inspectors and visitors to the various authorities.

The General Medical Council also provides for the publication of the British Pharmacopeia, a function entrusted in our country to the United States Pharmacopeal Convention.

Current Comment

THE NEED FOR PHYSICAL AND OCCUPATIONAL THERAPY TECHNICIANS IN WARTIME PHYSICAL RECONSTRUCTION

Large numbers of physical therapy and occupational therapy technicians are needed to meet the expanding requirements of wartime physical reconstruction. The Army already has physical therapy technicians serving in a hundred and forty Army hospitals within the continental limits of the United States and in thirty-four Army hospitals overseas. Recently the announcement was made that the Army still needs a thousand more physical therapy technicians. The Navy, the Veterans Administration, the Public Health Service and the civilian hospitals also require large numbers of physical and occupational therapy technicians to assist in rehabilitation of persons disabled by the war. The distinguished educator Ernest J. Jaqua, president of Scripps College in California, now serving as director of the Professional and Technical Division of the Bureau of Training, War Manpower Commission, recently made a tour among middle and far western universities in the interest of physical and occupational therapy. He concluded that it would be necessary to develop additional training schools at larger educational centers. The views expressed by this educator are gratifying to physicians interested in physical rehabilitation. Some of his observations follow:

> Hearty cooperation between the liberal arts and medical faculties is essential for complete success of a program of training in these fields. Whenever possible the two courses of study should be under joint administration, since the first year of technical training can be practically identical. There is much overlapping in actual operation.
>
> The general supervision of the training program can best be entrusted to the medical school, since all courses of study must be approved by the Council on Medical Education and Hospitals of the American Medical Association, or to a joint committee of the medical and arts faculties, the former providing the chairman. It is important to recognize the dominant medical implications from the outset.
>
> The chief difficulty in establishing strong new schools of physical and occupational therapy at this time is the scarcity of qualified teachers. In the case of physical therapy this means doctors who have specialized in this field in medical

school and have been directors of physical therapy departments in hospitals. These men are few and many of the best ones are now in the Army. As for occupational therapy teachers, they too are scarce and military hospitals are engaging them as rapidly as possible to direct newly established departments.

The founding of several new schools of physical and occupational therapy in state universities under experienced joint leadership where both medical and arts courses and hospital facilities are immediately available will have the double effect of giving added professional standing to these rapidly developing medical fields and at the same time discouraging the establishment of departments in institutions lacking medical affiliations. . . .

Perhaps the deepest impression gained from this survey of physical and occupational therapy schools is one of admiration for the splendid pioneer work of the older schools in the face of half hearted appreciation and support by the medical profession generally and only the vaguest knowledge of their importance on the part of the lay public. The first approved schools have steadily raised their professional standing, extended the range and quality of their courses of study (especially in medical subjects) and proved beyond all doubt the indispensable nature of their services to the medical profession. Indeed, thoughtful observers are deeply convinced, and the war will drive home this point with increasing poignancy, that the medical school or hospital which does not now take active measures to provide these services will some day be awakened to the fact that certain features of the magnificent procession of health have moved past while they were unaware of their presence or unmindful of their significance.

IS TUBERCULOSIS DISAPPEARING?

The mortality rate from tuberculosis "was cut in half during the first twenty years and then halved again by 1940; that is, the 1940 rate was less than one-fourth that at the beginning of the century."[1] The average for the three years 1939-1941 established an all time low record of 45.9 per hundred thousand of population. While this decline has been general for all ages and races, the rate of decline in the productive years 20 to 45 has been slower than in later years. "The remarkable decrease in tuberculosis mortality, which resulted in lowering tuberculosis from one of first rank in numerical importance to seventh, conceals the fact that this favorable situation does not hold for all age groups; from early adulthood to age 35 it is still the first killer." The percentage of tuberculosis deaths to deaths from other causes by age starts at a low point in the younger ages, increases rapidly to reach a maximum at the most productive age periods, then declines continuously thereafter. Mortality for tuberculosis is highest in cities of 100,000 or more population. For males it declines steadily in cities of 2,500 to 100,000. It is lowest in rural areas. The deaths of females are lowest in cities of 2,500 to 100,000 population, although the difference is not great. The rate for males is considerably higher than for females throughout the population. Tuberculosis is still much more fatal among the nonwhite races, but the rate of decline is more rapid in the colored population. "Many factors have contributed to the extraordinary achievements in the control of tuberculosis as reflected in the reduction of the death rate from around 200 per hundred thousand at the beginning of the century to less than 45 per hundred thousand at present. These factors are in the main the results of man's endeavor to control his environment. Some are tangible, such as the discovery of the causative organism and modes of transmission of the disease; many others are not so definite and may be stated vaguely to be the results of improvements in the 'standard of living.' The direct relationship of any one factor to the reduction of tuberculosis mortality may be difficult to prove. The combination of all factors, however, has reduced the mortality rate in the course of half a century to such an extent that the eradication of tuberculosis is within the realm of possibility."

1. Yerushalmy, J.; Hilleboe, H. E., and Palmer, C. E.: Tuberculosis Mortality in the United States: 1939-1941, Pub. Health Rep. 58: 1457 (Oct. 1) 1943.

LIEUT. GEN. MARK W. CLARK EULOGIZES MEDICAL CORPS' SERVICES

Under Medicine and the War, in this issue of THE JOURNAL, appears a copy of a letter sent by Lieut. Gen. Mark W. Clark, commanding General of the Fifth Army, to Major Gen. Norman T. Kirk, Surgeon General of the United States Army, eulogizing the magnificent service rendered by the medical department in the invasion of Salerno Bay. The efficiency of the performance is testimony to the wholehearted, sacrificing effort of the medical profession of the United States. In June 1940 Gen. George Dunham, delegate from the United States Army Medical Corps to the House of Delegates of the American Medical Association, presented a call to the medical profession to mobilize for the war. Under Surg. Gen. James C. Magee thousands of physicians and Medical Corps men were enrolled and units like the evacuation hospitals, to which special praise is tendered, were established. Under Major Gen. Norman T. Kirk the medical profession continues to respond with courage and self sacrifice. The letter of General Clark is special testimony to the magnificent work of the battalion surgeons who move up with the troops to the front lines and render their aid under enemy fire. General Clark emphasizes particularly the closeness of the medical service to the actual front. As the war intensifies and as our Army drives on to ultimate victory the demand on the medical profession is likely to become greater, the need for its service more imminent. At this time several thousand more doctors are needed and must be enrolled. The letter of General Clark should be an inspiration to every man who can possibly meet the call to come forward and offer his services.

MEMORIAL TO WILLIAM BEAUMONT

A permanent memorial to William Beaumont, known as the founder of our modern knowledge of the physiology of the stomach, has been assured by the transfer of the historical "Early House" on Mackinac Island to public ownership. In this house Alexis St. Martin, the French Canadian voyageur who was the subject of Beaumont's famous studies, received his accidental shotgun wound on June 6, 1822. In the actual work of restoration technical advice will be obtained from a committee of the Michigan State Medical Society, the National Park Survey and other agencies and historical sources.

MEDICINE AND THE WAR

In this section of The Journal each week will appear official notices by the Committee on War Participation of the American Medical Association, announcements by the Surgeons General of the Army, Navy and Public Health Service, and other governmental agencies dealing with medicine and the war, and such other information and announcements as will be useful to the medical profession.

GENERAL CLARK EULOGIZES MEDICAL SERVICES AT SALERNO

HEADQUARTERS FIFTH ARMY
Office of the Commanding General
A.P.O. No. 464, U. S. Army

Major General Norman T. Kirk
Surgeon General, U. S. Army
War Department
Washington, D. C.

In the field
25 September 1943

Dear General Kirk:

I desire to express the highest commendation for the wonderfully fine work performed by the medical units of this Army. Their devotion to duty under the hazardous and trying circumstances of the landing in Salerno Bay and their skill and efficient administration reflect the best traditions of the Service. Many wounded officers and men, who will eventually be restored to full health, would have died but for the effective work of the Medical Corps. I am especially well pleased with the performance of the Surgeon Fifth Army. He has done a magnificent job.

From the first landing to the date of this letter, 3,335 casualties have been admitted to Fifth Army hospitals. The first hospital opened within 3 to 5 miles of the front lines. The next hospital began to function the following day still closer and under the most difficult conditions. Neither hospital had any nurses when opened. Thus far there have been only 42 deaths in the hospitals. Thirty-two of these cases were those of U. S. personnel who died from wounds. Five were U. S. personnel who died from disease or injuries; 5 were enemy who died of wounds. Many of those who survived would never have reached a hospital alive had the hospitals been located at a normal distance from the front.

Two thousand and sixty-one cases have been evacuated to North Africa by air and sea.

The beach medical service was superior. One medical battalion distinguished itself on the beaches under heavy fire early in the operation. I shall recommend that the unit be cited for its gallant work under terrible conditions.

The medical supply system began to function according to plan with the assault wave, and despite the most difficult conditions it rapidly developed to the highest state of efficiency.

Among the difficulties with which the medical services have had to cope were the loss of the entire equipment of our third evacuation hospital and the bombing of a hospital ship which was bringing the nurses. Fortunately only one nurse was injured, and all are again on their way to Italy to rejoin their units.

The whole performance of the Fifth Army medical services has been most heartening to me and has been of incalculable aid in the operation. I have been so favorably impressed with their performance that I cannot forbear to write you this personal letter to tell you of my gratitude and admiration.

Mark W. Clark,
Lieutenant General, U. S. Army,
Commanding.

ARMY

THE BRUNS GENERAL HOSPITAL

The Bruns General Hospital, which was formally dedicated on September 22, is located in Santa Fe, N. M. The hospital was activated on February 18 and the formal flag raising was celebrated April 19, at which time the first patient was admitted. Although the hospital was built with a thousand bed capacity, recent construction will soon afford 1,500 beds. It is of cantonment type composed of open and closed wards, officers' and nurses' quarters, barracks, utility shops, warehouses and a chapel. All the wards, quarters and barracks are connected by either closed or covered walks.

The Bruns General Hospital was named in honor of the late Col. Earl Harvey Bruns, who was recognized as one of the world's leading authorities on pulmonary tuberculosis. The hospital has not been designated as one for any particular specialty, but rather a typical general hospital. It is equipped to care for surgical, medical, eye, ear, nose and throat, genitourinary and neurologic and psychiatric cases.

The medical officers assigned to the Bruns General Hospital as of September 27 were as follows:

Brig. Gen. Larry B. McAfee, commanding general.
Lieut. Col. Robert J. Wilson, executive officer, public relations officer and medical inspector.
Capt. Charles B. Ahlefeld, M. C., receiving and evacuation officer, Kansas City, Mo.

SURGICAL SERVICE

Major John D. Koucky, M. C., chief, River Forest, Ill.
Major Marshall W. Alcorn, M. C., assistant chief, of Burlington, Wis.
Capt. Oscar T. Roberg Jr., M. C., El Paso, Texas.
Capt. John O. Hanson, M. C., Chicago.
Capt. Herbert J. Fischer, M. C., chief of orthopedic section, Detroit.
Capt. LaMar H. Davenport, M. C., DuBois, Pa.
1st Lieut. Paul J. Martin, M. C., Omaha.
1st Lieut. Herman H. Levin, M. C., Newcastle, Pa.
1st Lieut. Joseph T. Kauer, M. C., Bronx, N. Y.
1st Lieut. Johnson Underwood Jr., M. C., Parkville, Mo.
1st Lieut. Robert R. VanDemark, M. C., Stoughton, Wis.

MEDICAL SERVICE

Major George J. Kastlin, M. C., chief, Pittsburgh.
Major Samuel I. Kooperstein, M. C., assistant chief, Jersey City, N. J.
Major John D. Ferrara, M. C., Jacksonville, Fla.
Major Jacob N. Lande, M. C., Sioux City, Iowa.
Capt. Harry E. Fischer, M. C., Detroit.
Capt. Erich P. Hausner, M. C., Amsterdam, N. Y.
Capt. Herbert B. Ellis, Raton, N. M.
Capt. Max J. Yacht, M. C., Brooklyn.
1st lieut. Edward J. Brazinski, M. C., Perth Amboy, N. J.
1st Lieut. Clifford H. Kalb, M. C., Grafton, Wis.
1st Lieut. Juan Larralde, M. C., New York.
1st Lieut. Ralph G. Leightly, M. C., Susswale, Pa.
1st Lieut. Theodore J. Talbot, M. C., New Brighton, N. Y.
1st Lieut. John C. Patterson, M. C., Freehold, N. J.
1st Lieut. Hyman E. Bass, M. C., Bronx, N. Y.

NEUROPSYCHIATRIC SERVICE

Lieut. Col. Cullen W. Irish, M. C., chief, Los Angeles.
Major Jacob N. Freidman, M. C., New York.
Capt. Robert E. McDade, M. C., Philadelphia.
1st Lieut. Morris V. Borenstein, M. C., Springfield, Mass.
1st Lieut. Edward G. Feldman, M. C., Chicago.

EYE, EAR, NOSE AND THROAT

Major Gordon H. Pumphrey, M. C., chief, Mount Vernon, Ohio.
Capt. Earl W. Martens, M. C., Milwaukee.
1st. Lieut. Edward Schwartz, M. C., Chester, Pa.

GENITOURINARY SERVICE

Capt. Frank L. Larkin, M. C., Scranton, Pa.

LABORATORY SERVICE

Major Elson B. Helwig, M. C., chief, St. Louis.
1st Lieut. Ralph C. Brown, M. C., Winnetka, Ill.
1st Lieut. Daniel E. Johnson, Sn. C., Muncie, Ill.
2d Lieut. Charles C. Croft, Sn. C., Washington, D. C.

ROENTGENOLOGIC SERVICE

Major Murray M. Freidman, M. C., Altoona, Pa.

OUTPATIENT SERVICE

Capt. Herbert S. Weichsel, M. C., Poughkeepsie, N. Y.

DENTAL SERVICE

Major Oscar J. Ogren, D. C., chief, Minneapolis.
Capt. Eldon L. Armer, D. C., Tucson, Ariz.
Capt. Eldon L. Njos, D. C., Baldwin, Wis.
1st Lieut. Richard L. Mosgrove, D. C., Lincoln, Neb.
1st Lieut. Frank A. Lemoine, D. C., Shreveport, La.
1st Lieut. Arthur O. McGowan, D. C., Kansas City, Kan.
1st Lieut. Gustave P. Brickhauer, D. C., Milwaukee.

COL. STANHOPE BAYNE-JONES APPOINTED DIRECTOR OF TYPHUS COMMISSION

The War Department, Washington, D. C., announced on October 21 the appointment of Col. Stanhope Bayne-Jones, M. C., A. U. S., as director of the United States of America Typhus Commission. Colonel Bayne-Jones succeeds Brig. Gen. Leon A. Fox, U. S. Army, who asked to be relieved as director and appointed field director in order to give all his time to the field work of the commission, which has been operating abroad, particularly in the Middle East, since the first of this year. Colonel Bayne-Jones takes over the directorship in addition to his other duties as assistant director, Preventive Medicine Division, Office of the Surgeon General, where the main office of the commission has been established. In addition to General Fox and Colonel Bayne-Jones, members of the commission include Major Gen. LeRoy Lutes, U. S. Army; Rear Admiral Charles S. Stephenson (MC), U. S. Navy; Brig. Gen. James Stevens Simmons, M. C., U. S. Army; Dr. R. E. Dyer, director of the National Institute of Health, U. S. Public Health Service; Col. Harry Plotz, M. C., A. U. S.; Col. William L. Wilson, M. C., U. S. Army; Comdr. Thomas J. Carter (MC), U. S. Navy; Dr. Norman H. Topping, U. S. Public Health Service; Major John C. Snyder, M. C., A. U. S.; Major Charles M. Wheeler, Sanitary Corps, A. U. S.; Lieut. Comdr. W. B. McAllister (MC), U.S.N.R.; Lieut. Comdr. A. Yeomans, U.S.N.R.; Dr. Alexander G. Gilliam, U. S. Public Health Service, and Capt. Byron L. Bennett, Sanitary Corps, A. U. S.

Colonel Bayne-Jones is a former dean of Yale University School of Medicine, New Haven, Conn., and was professor of bacteriology at that university when ordered to active duty early in 1942. He graduated from Johns Hopkins University School of Medicine, Baltimore, in 1914, entered the medical reserve corps in 1915 and served throughout the World War. From May 1917 to March 1918 he was attached to the British Expeditionary Force in France and Italy and later with the American Expeditionary Forces in France and Germany. He has been decorated with the British Military Cross, the French Croix de Guerre and the Silver Star with two Oak Leaf Clusters.

SPECIAL HOSPITAL ESTABLISHED TO TREAT BURNS

According to a recent report from Algiers, Lieut. Col. Edward A. Krause, formerly of Washington, D. C., has been named head of the special hospital established to treat burns received on the battle field, under the Army's new "selective hospitalization" plan. Col. Edward D. Churchill, former professor of surgery at Harvard University, Boston, and now on duty in Algiers, said that the new system whereby soldiers with special types of injuries are sent to special hospitals, such as that headed by Lieutenant Colonel Krause, had three large advantages: "Naturally the establishment of centers specifying the treatment of various types of casualties will render better service to the men wounded in battle. Second, these centers also will be educational centers where surgeons and specialists from other hospitals may observe technics. Then too, technical data to check on the results of surgical management and point the way to improved methods can be assembled."

U. S. ARMY UTILIZING TALENTS OF CHICAGO NEGRO DOCTORS

Many prominent Negro physicians from Chicago are looking after the health and battle care of Negro troops in United States camps and overseas. Fort Huachuca, which is located on the side of a mountain between Bisbee and Nogales, Ariz., and which is said to be the principal Negro training center in the country in the sense of providing finishing work with combat troops, is the home of some 20,000 Negro soldiers. There the 92d Division recently celebrated its first anniversary as an activated division. Lieut. Col. Median O. Bousfield, former member of the Chicago Board of Education, is in command of the station hospital at Fort Huachuca; Major Harold W. T.

Latcher and Major Roscoe C. Giles, both of Chicago, are chief of the medical service and chief of the surgical division respectively. Many of the Negro nurses at Fort Huachuca are from Chicago, as are many of the girls in the WAC battalion there.

Major John B. West, former superintendent of Provident Hospital, Chicago, with thirty nurses, commands a station hospital in North Africa. En route overseas is another Negro station hospital staff under the command of Major Hugh Simmons of Washington, D. C., with which group Capt. Arthur Thomas, former resident surgeon at Provident Hospital, Chicago, is also attached. Another Chicagoan, Major Harvey J. Whitfield, directs the medical detachment with the 365th Engineers at Camp Campbell, Ky.

FOURTH FERRYING GROUP BASE HOSPITAL

A new 150 bed military hospital, the Fourth Ferrying Group base hospital at the Municipal Airport, Memphis, Tenn., was activated without the usual ceremony on February 16 and since has been quietly administering to the medical needs of the air forces, ferrying group and other military personnel. The hospital is fully equipped to handle any case from a minor injury to a major surgical operation. Malaria and other tropical diseases contracted by men of the Fourth Ferrying Group during their operations in other parts of the world as well as communicable diseases are also treated there. A modern air conditioned laboratory, a full array of the newest dental and dental surgical equipment, an up to date pharmaceutical department and a medical supply warehouse are at the hospital. Both wards and individual rooms are available for patients. All pilots and crew members of this ferrying group on their return from foreign trips are examined at the hospital before going on rest leave. The entire army personnel of the Fourth Ferrying Group base is given specified immunization shots at specified intervals at the hospital. All pilots are given physical check-ups at regular intervals, and aviation cadets selected by the local Aviation Cadet Examining Board are given their army physical examination at the hospital.

The convalescent program, for men able to be up and about, is one of the outstanding features of the hospital. Each day they are given the opportunity of hearing speakers who are well versed in the various fields pertaining to the air forces, such as pilots who have returned from foreign trips. There are speakers from the outside who keep the men posted on world affairs. The Red Cross Gray Ladies arrange recreational programs, and there are movies and hiking for those men who are able. A day room for patients and enlisted personnel of the hospital is now in the process of construction, which will be equipped for recreational facilities and will also be used for religious services.

Major Lowell C. Smith is commanding officer of the hospital. Other medical officers include:

Capt. Alfred V. Mahoney, executive officer.
Capt. Samuel Pritzker, chief of medicine.
Capt. David W. Wallwork, chief of surgery.
Lieut. Gerald Smith, attending surgeon.
Capt. Francis M. Dougherty, flight surgeon.
Capt. Eugene H. Bekampes, assistant flight surgeon.
Capt. Henry Bernstein, assistant flight surgeon.
Lieut. Meyer Leonard Kimmel, assistant flight surgeon.
Lieut. Mark L. Beauchamp, chief eye, ear, nose and throat section.
Capt. Maurice B. Furlong, ward officer and patients' convalescent program.
Capt. Jacob David Weinberg, base industrial surgeon and ward surgeon.
Lieut. Irvin L. Libecap, assistant chief of surgery.
Capt. Samuel M. Klaristenfeld, base medical inspector.

LIEUT. COL. W. R. LOVELACE AWARDED DISTINGUISHED FLYING CROSS

Lieut. Col. W. R. Lovelace, chief of the aeromedical unit at Dayton Field, Ohio, has been awarded the Distinguished Flying Cross for heroism beyond the call of duty in recognition of his record altitude jump to test oxygen equipment during the parachute descent. The cross was presented in Washington, D. C., October 20, by Gen. H. H. Arnold, commander of the United States Air Forces.

SEMINOLE COMMISSIONED U. S. ARMY HOSPITAL SHIP

The War Department announced on October 22 the commissioning of the United States Army hospital ship *Seminole*. The vessel has been painted white with a green band and red crosses and it travels alone, fully lighted. It has no armor or armament. The vessel, a former combination freight and passenger ship, is 402 feet long and has a gross tonnage of 5,896 and a net tonnage of 3,514. It was converted by the Transportation Corps of the Army Service Forces. It contains 284 beds for bed type patients and 182 beds for patients able to move about their quarters. The ship is staffed by fifteen medical officers, thirty nurses and eighty-one medical attendants. In addition it has a navy crew. The commanding medical officer is ship commander, but navigation is under command of a naval officer. There are two other hospital ships in operation by the Army, the *Acadia* and the *Shamrock*. Hungarian, Bulgarian, Rumanian, German and Japanese governments have been notified that the *Seminole* is a hospital ship, entitled to immunity and protection under the terms of the Hague Convention X, 1907.

LIEUT. COL. PRESTON WHITE AND LIEUT. COL. PAUL SANGER CITED

Citations were presented by the Forty and Eight Voiture to Lieut. Col. Preston White and Lieut. Col. Paul Sanger, both formerly of Charlotte, N. C., as organizers of the 38th Evacuation Hospital Unit, who are overseas serving in North Africa. The formal presentation was made to the wives of Lieutenant Colonel White and Lieutenant Colonel Sanger by Dr. Addison G. Brenizer of Charlotte, who organized a local hospital unit in World War I and who has also been cited by the Forty and Eight Voiture for his recent efforts in organizing Base Hospital No. 111 and securing thirty-five nurses for Base Hospital No. 106.

OFFICERS GRADUATE AT MEDICAL FIELD SERVICE SCHOOL

Graduation exercises were held at the Medical Field Service School, Carlisle Barracks, Pennsylvania, for 344 more officers of the medical department who are now qualified for field duty with troops. The training course taught them the military knowledge necessary for them to be efficient medical department officers, capable of carrying out medical preventive measures and caring for the sick and injured under war conditions. Brig. Gen. Addison D. Davis, commandant of the school, presented the diplomas to the officers.

CAPT. PAUL D. HAHN AWARDED PURPLE HEART

Capt. Paul D. Hahn, Warsaw, Ohio, has been awarded the Purple Heart medal. He received shrapnel wounds in Sicily, according to an item published in the Uhrichsville (Ohio) *Chronicle* of September 24. Captain Hahn was wounded on July 11 in the Gala salient while he was giving first aid to two wounded U. S. soldiers in an evacuation area. The officer and the two men were cut off from their lines for six hours before they were rescued, following a counterattack by a German tank unit.

PRISONERS OF WAR

It has recently been reported that Capt. Alvin C. Poweleit, formerly of Newport, Ky., is a prisoner of the Japanese in the Philippines. Captain Poweleit graduated from the University of Louisville School of Medicine in 1936 and entered the service March 26, 1941.

First Lieut. Thomas Edward Corcoran, formerly of Rock Rapids, Iowa, was taken prisoner of war in Tunisia, Feb. 17, 1943, according to a recent report. Lieutenant Corcoran graduated from the University of Iowa College of Medicine, Iowa City, in 1938 and entered the service Feb. 12, 1941.

MISCELLANEOUS

TRANSPORTATION DIFFICULTIES HAMPER REMOVAL OF GERMAN WOUNDED

Oberfeldarzt Dr. Wolff in the *Berliner Borsen-Zeitung* of August 28, in writing on the work of the army medical service, said that for the wounded it is a long road from the moment they are wounded at the front to their arrival at a military hospital in the homeland. The wide spaces of the east, the shortage of railway lines and good transport roads, all the circumstances of a sparsely populated and little civilized country make themselves felt here in the most aggravating manner. The removal of the wounded has become one of the hardest problems of this war. Munitions, provisions and material for the armies of millions are pouring to the front on an enormous scale. The outcome of heavy, decisive battles depends on the timely arrival of the supply trains. The few available railway lines are taxed beyond their capacity. Hospital trains? In order to let them through, the necessary supply trains, so urgent for the front, would have to be held up somewhere or other. The transport of wounded by aircraft? The number of those who could pilot the planes is limited on the whole, and above all the technical and tactical preconditions for the employment of aircraft and for the landing and starting of the planes would have to be fulfilled. Motor ambulances? Their carrying capacity is even more limited, and they too are used in the first place at the front itself to transport the wounded to the main dressing centers and the field hospitals. It is not possible to release ambulances for long journeys on the worst possible roads. In these circumstances quite exceptional situations arise for our medical officers, difficulties of organization which are added to their medical and military duties. The obstacles, so it often appears, are insurmountable. But they must be mastered and they are mastered too, often by emergency solutions by means of improvised hospital trains which are established in goods vans (only part of the ordinary passenger carriages are suitable for accommodating stretcher cases) and which cannot offer the wounded all the comfort and conveniences they deserve. But there is nothing for it, and the wounded are front soldiers, accustomed to discomfort and inconveniences. The chief object is achieved, however: the wounded are transported back home.

NERVOUS DISORDERS WIDESPREAD IN GERMANY

The *Leipziger Neueste Nachrichten* of August 23 states that nowadays the homeland is greatly in need of the nerve specialist. It is a question not so much of serious organic diseases of the nervous system but of the host of so-called nervous disorders which, although they do not endanger life, may have the most serious effect on the well-being, happiness, working capacity and performance of men. In wartime all are subject to heavy burdens. More work has to be done on less food. The hours of sleep are cut and the night's rest is disturbed. Frequently housing conditions are unfavorable and long distances have to be covered in overcrowded means of transport. Families are torn apart. Added to all this are the excitement, worries, mourning and uncertainty about the fate of one's dear ones. Even strong characters are not always equal to such a burden and weaker ones lose their power of resistance and break down. Not every one is capable of withstanding the terror air attacks. No one who does not live in a raided district can have any idea of how horrible an experience it is or of how much firmness and courage are needed to get through a heavy attack. The detonation of the bombs and mines, the collapse of houses, the cries of the wounded and trapped, the fires and the constant danger to life to which every one is exposed in helpless expectation strain one's nerves to the utmost. It is easy to understand that the wounded and trapped who save nothing but their bare lives, whose nearest and dearest are missing and who see themselves surrounded by death and mutilation, fire and devastation suffer a nervous collapse.

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ORGANIZATION SECTION

1944 ANNUAL SESSION TO BE HELD IN CHICAGO

Because of information received that it will not be possible for St. Louis to provide adequate hotel accommodations, the annual session of the American Medical Association in 1944, which had been scheduled to be held in St. Louis, has been changed by the Board of Trustees so that it will now be held in Chicago, June 12 to 16.

The meetings of the House of Delegates will be held at the Palmer House and the Scientific Exhibit will be installed in that hotel. The Technical Exposition will be housed at the Stevens Hotel.

The Council on Scientific Assembly will meet at the offices of the Association in Chicago on December 1 and the Annual Conference of Section Secretaries with the Council will be held on that day for the purpose of making preliminary arrangements for the scientific program to be presented at the next annual session.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—S. 400 has been reported to and passed by the House, proposing to reorganize the United States Public Health Service. It retains the provision under which for the duration of the present war and for six months thereafter graduates of reputable colleges of osteopathy shall be eligible for appointment "as reserve officers in the Public Health Service." S. 763 has passed the Senate and House, proposing to amend the Selective Training and Service Act of 1940. Among other things, this bill directs the President to appoint a commission of five qualified physicians, one of whom only shall be an Army officer and one only a Naval officer, and the three remaining members qualified physicians not in the employ of the federal government to examine the physical qualification requirements for admission to the Army, Navy and Marine Corps and recommend to the President any changes therein which it believes can be made without impairing the efficiency of the armed services. H. Res. 328 was reported unfavorably by the House Committee on Military Affairs, proposing to request the President to furnish the House of Representatives certain information with respect to the availability of hospital facilities in the United States. The House after receiving the report of the committee tabled the resolution.

Bills Introduced.—H. R. 3530, introduced by Representative King, California, proposes to authorize the construction and extension of certain marine hospitals in Alabama, California, Florida, Illinois, Louisiana, Maine, Maryland, Massachusetts, Michigan, New Mexico, New York, Ohio, Pennsylvania, Texas, Virginia and Washington. H. R. 3542, introduced, by request, by Representative Rankin, Mississippi, proposes to provide for the rehabilitation of certain disabled veterans who served between Sept. 16, 1940 and Dec. 7, 1941.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CALIFORNIA

Physicians Needed.—The Los Angeles County Civil Service Commission announces examinations for the position of head anesthetist in the Los Angeles County Hospital and for the position of head pathologist at the Olive View Sanatorium, Olive View. Applicants for both positions must have graduated with an M.D. degree from an approved medical school and must have completed a one year internship in an approved hospital. In addition to these requirements, applicants for the head anesthetist position must have at least two years' recent experience in the specialty of anesthesia in a hospital of not less than 200 beds. There is no age requirement. The examination for this "duration of war" position paying from $345 to $411 a month will be held in Los Angeles and such other localities as justified by the applications filed. Applicants for the $345-$411 a month position of head pathologist must be under 55 years of age and, in addition to the educational requirements, must have at least two years' recent experience as a specialist in clinical pathology, some of which must have been in a responsible, administrative and executive capacity. Full information and applications for either of these positions may be obtained from the office of the commission, Room 102 Hall of Records, Los Angeles 12. Applications must be filed on or before November 17.

Annual Symposium on the Heart.—The thirteenth annual symposium of the Los Angeles Heart Association will be held in Los Angeles, November 11-12. Dr. Tinsley R. Harrison, professor of medicine, Bowman Gray School of Medicine, Wake Forest College, Winston-Salem, N. C., will be the guest speaker, discussing "The Abuse of Rest in the Treatment of Cardiovascular Disease" and "The Differential Diagnosis of Palpitation." Dr. Harrison will conduct a clinical-pathologic conference and a cardiac clinic. Included among the speakers will be:

Dr. William Gordon Garnett, Los Angeles, The Practical Management of Patients with Hypertension.
Dr. Samuel J. McClendon, San Diego, The Diagnosis of Rheumatic Fever in Children.
Dr. Wilbur A. Beckett, Los Angeles, On the Importance of Speaking One Heart Language.
Dr. Francis M. Smith, La Jolla, The Importance of Salt and Fluids in the Treatment of Congestive Heart Failure.
Major Maurice Eliaser, Jr., M. R. C., Cardiovascular Disease in an Army General Hospital.
Dr. Leon G. Campbell, Pasadena, The Treatment of Cerebral Vascular Accidents.
Dr. Donald E. Griggs, Los Angeles, The Critical Diagnosis of Angina Pectoris.
Dr. Edward C. Rosenow Jr., Pasadena, The Importance of the Electrocardiogram in Coronary Artery Disease.
Dr. Wilbur Bailey, Los Angeles, The Place of the Radiologist in the Diagnosis and Treatment of Heart Disease.
Dr. William J. Kerr, San Francisco, One Thousand Draft Rejections for Cardiovascular Conditions.
Dr. Howard F. West, Los Angeles, Nutritional Considerations in Heart Disease.
Dr. C. Russell Anderson, Los Angeles, The Treatment of Cardiovascular Syphilis.
Dr. Kendrick A. Smith, Los Angeles, The Patient with Diabetes and Heart Disease.
Dr. John Philip Sampson, Santa Monica, The Need for Conservatism in the Treatment of Acute Coronary Occlusion.

Course at California to Meet Latin American Needs.—The University of California will begin on March 1, 1944 a special course in health education to meet the particular requirements of students from the other American countries. Students will be urged, however, to commence their studies not later than December 10 to give time for those who require training in English to secure the necessary instruction. The course in English will be planned to deal with the vocabulary which will be used in the later course in health education and will also serve as an orientation course. The health education course will be given in the School of Public Health now being established and will include training in the principles of public health and hygiene, principles of education and methods, materials and technics in health education, particularly as they apply to conditions in the other republics. Arrangements are being made to appoint one or more experienced public health administrators from the other republics to serve temporarily on the faculty. The class for 1944 will be limited to thirty students. All applicants must give evidence of their intention to undertake service in public health or in school health work in Latin America after completion of the course. Classroom instruction will be given on the campus at Berkeley, after which there will be supervised field training. Candidates need not be physicians, but persons with prior training or experience in public health work, school health education and related fields will be given preference. Students who are selected for this training by the Institute of Inter-American Affairs will receive monthly stipends adequate to meet their living costs and will be furnished with tuition and transportation from their residence to the University of California and return. All applications will be made through chiefs of party of the Office of the Coordinator of Inter-American Affairs in each republic in accordance with regulations governing the institute training program. Following is a list of the chiefs of party, who should be addressed in care of the American embassy in the respective republics:

Dr. George C. Bergman, La Paz, Bolivia.
Major Elmer H. Christopherson, M. C., A. U. S., Rio de Janeiro, Brazil.
Dr. Howard B. Shookhoff, Bogota, Colombia.
Dr. David Glusker, San Jose, Costa Rica.
Dr. Theodore L. Gandy, Santiago, Chile.
Dr. Thomas B. Phinizy, Ciudad Trujillo, Dominican Republic.
Lieut. Wyman R. Stone, Quito, Ecuador.
Lieut. Col. H. B. Van Hovenberg, San Salvador, El Salvador.
Dr. Robert L. Vought, Guatemala City, Guatemala.
Mr. Ralph S. Howard Jr., Port-au-Prince, Haiti.
Dr. Isaac Frank Tullis Jr., Tegucigalpa, Honduras.
Dr. E. Harold Hinman, Mexico, D. F., Mexico.
Dr. Leonard S. Rosenfield, Managua, Nicaragua.
Mr. Howard D. Schmidt, Panama City, Panama.
Dr. Richard J. Plunkett, Asuncion, Paraguay.
Dr. Edward A. Westphal, Lima, Peru.
Lieut. Col. Ernest W. Steel, Caracas, Venezuela.

In other countries, information regarding the course may be secured from the Pan American Sanitary Bureau.

DISTRICT OF COLUMBIA

Personal.—Dr. Ludwig G. Lederer, acting chief of the medical department of the Pennsylvania-Central Airlines, has been appointed director of the department. —— Mr. John A. Linder, Perth Amboy, N. J., has been appointed superintendent of Doctors Hospital, succeeding Mr. O. K. Fike, who resigned to become director of the Miami Valley Hospital at Dayton, Ohio.

Special Meeting on Ophthalmology.—On December 4 the department of ophthalmology at George Washington University School of Medicine will hold its semiannual meeting, to which all members of the armed forces are invited. The following case demonstrations will be conducted by members of the staff of the department of ophthalmology:

Drs. William T. Davis and Ernest A. W. Sheppard, Anomalies of the Disks.
Dr. Edgar Leonard Goodman, Pemphigus Conjunctivae.
Dr. Ronald A. Cox, Bilateral Amblyopia Following Crushed Chest.
Dr. Frank D. Costenbader, Congenital Detachment in Childhood.
Dr. Richard W. Wilkinson, Foreign Body in Cataractous Lens Located by Vogt X-Ray Technic.
Dr. Sterling Bockoven, Melanoma of the Choroid.
Dr. Carmon R. Naples, Hypertensive Retinopathy.

Col. Frederic H. Thorne, M. C., U. S. Army, will discuss "Military Aspects of Ophthalmology" and Dr. Davis, professor of ophthalmology at the medical school, will give an illustrated address on "Differential Diagnosis of the Vertical Motor Anomalies."

IDAHO

State Medical Election.—Dr. Willard O. Clark, Lewiston, was chosen president-elect of the Idaho State Medical Association and Dr. Parley Nelson, Rexburg, was installed as president. Dr. Franklin B. Jeppesen, Boise, is secretary of the group.

ILLINOIS

Campaign Against Bang's Disease.—A campaign to eradicate Bang's disease has been begun in Lake County. The Lake County board of supervisors voted funds for the project, and state and federal authorities are cooperating in the program, in which every cow will be tested and all dairy calves between 4 and 8 months old vaccinated. Farmers will receive compensation for any reacting cows disposed of through market channels.

Program to Develop Adequate Health Protection in Schools.—Health and education officials of the state announced the launching of a program for the development of more adequate health protection in schools throughout Illinois to include a detailed scientific study of school health problems, with the consultant services of Clair E. Turner, Dr.P.H., professor of biology and public health, Massachusetts Institute of Technology, Cambridge, Mass. Preliminary meetings were held in Springfield on October 26 and in Chicago on October 29 to consider the program.

Chicago

University News.—Dr. Jacob Meyer, associate professor of medicine, has been promoted to professor of medicine at the University of Illinois College of Medicine, effective September 1. Dr. Meyer graduated at Rush Medical College in 1916.

The Belfield Memorial Lecture.—Dr. George F. Cahill, professor of urology, Columbia University College of Physicians and Surgeons, New York, delivered the fifteenth annual William T. Belfield Memorial Lecture before the Chicago Urological Society on October 28. His subject was "Hormonal Tumors of the Adrenals."

New Members of Medical Center Commission.—New members appointed by Governor Green to serve on the medical center commission include George A. Barr, Joliet, David H. Brill, Albert D. Farwell and Dr. Raymond B. Allen, all of Chicago. The commission is working on the development of a medical center on Chicago's west side. The new members of the commission will take office in December.

INDIANA

Kellogg Grant for Medical Technologists.—The W. K. Kellogg Foundation, Battle Creek, Mich., has granted $4,000 to Butler University, Indianapolis, to be used for loans and scholarships in training medical technologists. Following the two to four year preclinical training program at Butler, clinical work is done either at the medical center at Indiana University School of Medicine or at the Methodist Hospital, Indianapolis.

KENTUCKY

State Medical Election.—Dr. Oscar O. Miller, Louisville, was named president-elect of the Kentucky State Medical Association at its annual meeting in Louisville on October 6 and Dr. Van A. Stilley, Benton, was installed as president. New vice presidents include Drs. J. Watts Stovall, Grayson, James H. Pritchett, Louisville, and William Howe Fuller, Mayfield. Dr. Philip E. Blackerby, Louisville, state health commissioner, was elected secretary of the association and Dr. Amplias W. Davis, Madisonville, was reelected treasurer. During the meeting the house of delegates chose Dr. Thomas Atchison Frazer, Marion, as the "outstanding general practitioner of Kentucky."

MARYLAND

Personal.—Dr. Guy B. Anderson, Ellicott City, has resigned as health officer of Howard County. After some special study at the Mayo Clinic, Rochester, Minn., Dr. Anderson plans to return to private practice.

Roscoe R. Hyde Dies.—Roscoe Raymond Hyde, Ph.D., professor of immunology and director of laboratories of filtrable viruses since 1932 at Johns Hopkins University School of Hygiene and Public Health, died at Baltimore on September 15. Dr. Hyde graduated at the Indiana State Teachers College, Terre Haute, in 1908, receiving his A.M. and A.B. degrees in 1909 and his Ph.D. degree at Columbia University in 1913. He was assistant in embryology at Indiana University, Bloomington, in 1908-1909, assistant professor and later professor and head of the department of zoology and physiology at Indiana Teachers College, serving as lecturer in pathology at the Terre Haute Veterinary College from 1912 to 1919. Joining Johns Hopkins as a fellow in 1918 he subsequently served as associate, associate professor of immunology from 1928 to 1932, and as associate professor of filtrable viruses and head of the department. He was editor of the *American Journal of Hygiene* from 1927 to 1932. Dr. Hyde had been a member of numerous scientific organizations and had written extensively in his field.

MICHIGAN

Inter-American Conference of Schools of Public Health.—The Pan American Sanitary Bureau, in cooperation with the Association of Schools of Public Health of the United States and Canada and the W. K. Kellogg Foundation, has called a conference of representatives of the schools of public health in the South, Central and North American countries. The conference will be held in the new School of Public Health of the University of Michigan, Ann Arbor, for four days beginning November 8. In attendance will be representatives from the schools of public health at Harvard, Boston; Yale, New Haven, Conn.; Johns Hopkins, Baltimore; Columbia, New York; University of North Carolina, Chapel Hill; University of Toronto; Vanderbilt University, Nashville, Tenn.; University of Minnesota, Minneapolis, and University of Michigan, together with representatives from the Rockefeller Foundation, the W. K. Kellogg Foundation, the Commonwealth Fund, and Office of the Coordinator of Inter-American Affairs, the Department of State, the Pan American Sanitary Bureau and the U. S. Public Health Service. Thomas Parran, surgeon general of the U. S. Public Health Service, will discuss "The Service of the Public Health Schools to the Nation's Health" and Charles-Edward A. Winslow, Dr.P.H., New Haven, Conn., "The Fruits of Inter-American Relations in the Field of Public Health." At one session the education of public health personnel in Mexico, Central and South American countries will be discussed by:

Dr. Alberto Zwanck, professor of hygiene, University of Buenos Aires Medical School, Argentina.
Dr. G. H. Paula Souza, director, School of Hygiene, University of São Paulo, Brazil.
Dr. Herman Romero, professor of hygiene, University of Chile Faculty of Medicine, Santiago.
Dr. Mario Prado-Lefort, acting director of the Bacteriologic Institute, Santiago.
Dr. Ortelio Martinez-Fortun, professor of hygiene, Havana Medical School, Cuba.
Dr. Miguel E. Bustamante, professor of hygiene, Mexico, D. F.
Dr. Carlos Enrique Paz Soldán, professor of hygiene, Medical School, University of Lima Faculty of Medicine, San Marcos, Peru.
Dr. Federico J. Salveraglio, assistant professor of hygiene at the University of Montevideo Faculty of Medicine, Uruguay.

On Wednesday and Thursday the meetings will be limited to a working committee to consist of one representative from each of the schools of public health and one from each of the interested cooperating agencies. The conference will limit its discussions to the needs of students who aspire to a professional career in the field of public health.

MINNESOTA

Medical Panel for Workmen's Compensation Cases.—Governor Thye recently appointed fifteen physicians to serve on a medical panel provided by the last legislature to help decide medical questions arising in workmen's compensation cases. The physicians are Drs. John R. Aurelius, Carl B. Drake and Francis W. Lynch, St. Paul, Harold R. Tregilgas, South St. Paul, Robert G. Allison, Jay A. Myers and Viktor O. Wilson, Minneapolis, Frank J. Elias and John R. McNutt, Duluth, Willis S. Lemon and Charles G. Sutherland, Rochester, Albert J. Wentworth, Mankato, Warren E. Wilson, Northfield, Bertram S. Adams, Hibbing, and Berton J. Branton, Willmar. The law provides that in case a claim involving controversial medical questions is allowed by the commission after the taking of testimony a medical board of three physicians from the panel of fifteen shall be chosen to act in the case. The panel includes ten physicians with experience in the diagnosis and treatment of industrial diseases and five x-ray specialists.

MONTANA

Personal.—Dr. Lunsford D. Fricks has resigned as health officer of Helena and Lewis and Clark County because of poor health. His resignation was effective August 31.——Dr. E. Martin Larson, Great Falls, was reelected president of the Montana Tuberculosis Association at its annual meeting, September 11. Mrs. Henriette Crockett, Helena, is executive secretary.——Dr. Charles J. Bresee, Great Falls, has been appointed a member of the Montana Department of Public Health succeeding Dr. George F. Turman, Missoula, and Dr. Richard C. Monahan, Butte, has been named to succeed the late Dr. Enoch M. Porter, Great Falls.

NEW YORK

Cancer Programs.—November 10 has been designated a cancer teaching day in Poughkeepsie, the program to be under the auspices of the Dutchess County Medical Society, the Dutchess County Tumor Clinic and the Tumor Clinic Association of the State of New York. The speakers will be Drs. Norman Treves, New York, on "The Management of the Patient with Advanced Cancer"; Arthur J. Wallingford, Albany, "Cancer of the Uterus," and Maurice Lenz, New York, "The Treatment of Carcinoma of the Larynx." An evening session will be addressed by Drs. Lloyd F. Craver and Archie L. Dean, New York, on "The Significance of Enlarged Lymph Nodes" and "Carcinoma of the Genitourinary Tract" respectively. A cancer evening will be held at Olean, November 11, under the auspices of the Cattaraugus County Medical Society with Dr. Craver, on "The Role of the General Practitioner in the Early Diagnosis of Cancer" and Dr. Clyde L. Randall, Buffalo, on "The Significance and Management of Abnormal Vaginal Bleeding" as the speakers. The state medical society and the division of cancer control of the state department of health are sponsoring these programs.

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New York City

Information Center on Alcoholism.—The Research Council on the Problems of Alcohol, now located in Bronxville, N. Y., plans to open a New York Information Center to be located in the Grand Central district, for information, without charge, regarding alcoholism and its treatment to alcoholic addicts and to all persons who have a problem connected with the use of alcohol. Family doctors, employers, clergymen, representatives of social agencies, educators and other civic leaders will be welcome at the center. A qualified man and woman will be on duty to provide information and lists of hospitals, and private practitioners competent to treat alcoholism will be available. The council is also planning to move its office to New York.

Blood and Plasma Bank Established.—The Blood Transfusion Association, formerly the Blood Transfusion Betterment Association, announces the establishment of a blood and dried plasma bank. Connected with the association's laboratory, the blood and dried plasma supply service is placed at the disposal of the community on an exchange basis and is available to hospitals as well as to individual physicians and welfare groups. The association will also continue its blood donor bureau service and continue to support blood research work in the field of transfusion and in the preventive application of the Rh factor in the blood transfusion of pregnant women. The laboratory and office of the Blood Transfusion Association provide twenty-four hour service at 2 West 106th Street.

Department of Tropical Medicine Created at Columbia.—The establishment of a department in tropical medicine at Columbia-Presbyterian Medical Center has been announced. Dr. Harold W. Brown has resigned as dean of the School of Public Health of the University of North Carolina, Chapel Hill, effective January 1, to become the professor of parasitology under the new setup. He is also the first member of the faculty for training and research in tropical diseases, which will function under the immediate direction of the DeLamar Institute of Public Health, a division of the medical school. The project was made possible by a grant of $150,000 from the Josiah Macy Jr. Foundation, which will also defray a concentrated five year program of research and teaching at the medical center (THE JOURNAL, Jan. 23, 1943, p. 271).

NORTH CAROLINA

New Division of Local Administration.—The North Carolina State Board of Health has created a division of local administration and divided the state into three districts as a part of the general reorganization of the board. The directors of the districts will be Drs. Joseph C. Knox, Raleigh, district 1, Robert E. Fox, Raleigh, district 2, and John Roy Hege, Winston-Salem, district 3. Because of the emphasis being placed on venereal disease control during the years preceding the war, and especially during this war period, it has been deemed advisable to consolidate all administrative activities pertaining to the cooperative working relationship between the state board of health and local health units, including venereal diseases, in the new division of local administration. Each district director will have under his immediate supervision certain personnel and services now provided by the state board of health, consisting of a senior public health physician in venereal disease control, consultant public health nurses, a sanitary engineer, sanitary inspectors and public health educators. For the time being a skeleton organization of the present division of county health work will be retained in the division of local administration. An acting director of epidemiology will be responsible for the work of the division of epidemiology excluding venereal diseases. The office of personnel officer has been created to handle all questions between the state and local health units and the merit system council.

OHIO

Hospital News.—The medical library of the late Dr. Orr A. Dickson, Jefferson, has been presented to the Ashtabula General Hospital, Ashtabula. The collection consists of six hundred volumes with publication dates running from 1896 to 1942.

Food Handlers to Be X-Rayed.—The Gallia County Tuberculosis and Health Association is urging all food handlers, all employees of food handlers and all owners of food establishments to request their employees to be tuberculin tested by the public health nurses. The association plans to bear the expense of this program and will urge all positive reactors to be x-rayed. All persons complying with this offer and found to be free from communicable tuberculosis will be given health certificates. The Gallia County Association is said to be the first association in Ohio to inaugurate a testing program for food handlers, according to the *Bulletin* of the National Tuberculosis Association.

RHODE ISLAND

President of State Society Honored.—Physicians and civic leaders from the Newport area gave a dinner recently in honor of Dr. Michael H. Sullivan, newly elected president of the Rhode Island Medical Society. Dr. Norman M. MacLeod, Newport, formerly president of the state society, was toastmaster at the dinner, at which Dr. Sullivan was presented with an electric clock. Speakers included Superior Court Judge Mortimer A. Sullivan, Cornelius C. Moore, president of the city council, and Dr. Elihu S. Wing, Providence, president-elect of the state society.

Internship Reduction Disapproved by State Board.—The Rhode Island Board of Examiners in Medicine announced that it does not approve a decrease in hospital internship from twelve to nine months for the duration of the war. At a recent meeting the board voted "that the licensing authority in this state would expect subsequent service in an army or navy station, field or general hospital for those physicians who were compelled by the military authorities to leave their regular internships after nine months of service. Physicians who are physically disqualified and who therefore do not enter the armed forces will be required to complete their usual twelve months of rotating internship." The board feels that this action will meet the military purpose of the proposal to reduce the internship without lowering the standards for licensure.

WASHINGTON

State Medical Election.—Dr. Raymond L. Zech, Seattle, was named president-elect of the Washington State Medical Association at its annual meeting in September and Dr. Vernon W. Spickard, Seattle, was inducted into the presidency. Dr. Herbert E. Coe, Seattle, was chosen vice president.

Hospital News.—Plans are going forward to construct the Doctors Hospital in Seattle at a cost of $800,000. It will have 200 beds and will be sponsored by the King County Medical Service Corporation.——The Franklin Delano Roosevelt Hospital at Bremerton has been built at a cost of $986,000. The hospital was financed by the Federal Works Agency and was expected to be opened for patients on November 1.

Immunization Program.—The Tacoma City Health Department and Pierce County Medical Society are cooperating in a community immunization program against diphtheria, smallpox and whooping cough. The decision to launch this program followed a request from the Tacoma housing authority to the health department for immunization services in the Salishan and Lincoln Heights areas. A survey showed that the number of children immunized was not enough to prevent occurrence of these diseases in epidemic proportions. The new program recommends that the family physician should encourage immunization of his own patients. It will include mass immunization clinics at the Salishan and Lincoln Heights areas by the city health department, with the department giving special emphasis to the promotion of immunization by the family physician in news releases.

WISCONSIN

Personal.—Dr. William C. Keettel Jr., Madison, obstetric consultant for the Wisconsin State Board of Health, has been granted a leave of absence for service with the U. S. War Department. He has been assigned to a special project in Knoxville, Tenn., as chief of the division of obstetrics and gynecology, the *Quarterly Bulletin* of the state board of health reports.

State Medical Election.—Dr. Charles Fidler, Milwaukee, was chosen president-elect of the State Medical Society of Wisconsin at its annual meeting in September and Dr. Russell M. Kurten, Racine, was installed as president. Mr. Charles H. Crownhart, Madison, is the executive secretary of the society. At the meeting Dr. Cornelius A. Harper, Madison, who recently retired as state health officer after many years of service, was presented with a scroll of appreciation in acknowledgment of his services.

HAWAII

Personal.—Oscar N. Allen, Ph.D., professor of bacteriology and a former chairman of the department of botany at the University of Hawaii, Honolulu, has recently been named chairman of the newly established department of bacteriology, according to *Science*.

GENERAL

Dr. MacEachern Named Chairman of Council on International Relations.—Dr. Malcolm T. MacEachern, Chicago, associate director of the American College of Surgeons, was named chairman of the Council on International Relations created by the forty-fifth annual convention of the American Hospital Association in Buffalo, September 12. The council will cooperate with Nelson Rockefeller, coordinator of the Office of Inter-American Affairs, and plans to assist in maintaining reciprocal relations with all hospital groups in the world (THE JOURNAL, September 25, p. 225).

Russian War Relief Requests Books.—Dr. Vladimir Lebedenko has requested the Russian War Relief, Inc., 11 East 35th Street, New York 16, to secure for Russian physicians a considerable number of medical textbooks, reference works and periodicals. Soviet institutions, according to Dr. Lebedenko, are training two and one half times as many physicians as before the war. The shortage of paper and other material has greatly reduced Russia's own publishing activities. Physicians who wish to contribute books may request a copy of the list by writing directly to the Russian War Relief.

American Therapeutic Society.—The American Therapeutic Society will meet on November 15 at the Netherland Plaza Hotel, Cincinnati. Speakers will include:

Dr. Francis M. Pottenger Jr., Monrovia, Calif., The Therapeutic Value of Fats, Particularly the Lecithins, in Dermatoses.
Dr. Abram Wilbur Duryee, New York, Vitamin C and Shock: Results of Recent Research Studies.
Dr. Edwin C. Hamblen, Durham, N. C., Experience with Gonadotropic Therapy in Sterility.
Dr. Joseph B. Wolffe, Philadelphia, Renal Artery Thrombosis: Its Clinical Recognition and Management.
Col. Neely C. Washburn, M. C., U. S. Army, Development of Aviation Medicine in the United States.

Dr. Walter E. Vest, Huntington, W. Va., will deliver his presidential address on "William Shakespeare, Therapeutist," at the annual banquet Monday evening.

Industrial Hygiene Meeting.—The eighth annual meeting of the Industrial Hygiene Foundation will be held at the Mellon Institute, Pittsburgh, November 10-11. Included among the speakers will be:

Charles F. Kettering, Dr.Engring., Dayton, Ohio, subject not announced.
Dr. Charles F. Kutscher, Pittsburgh, How the Inhalation of Some Chemicals Affects the Eye.
Lieut. Col. William J. McConnell, M. C., A. U. S., Surg. Robert H. Flinn, U. S. Public Health Service, and Lieut. Col. Raymond Hussey, M. C., A. U. S., Recent Data on Health Hazards in War Industries.
Dr. Robert A. Kehoe and Edward J. Largent, Cincinnati, Fluorides as an Industrial Health Problem.
Dr. Oscar A. Sander, Milwaukee, Further Observations on Lung Changes in Electric Arc Welders.
Drs. Leroy U. Gardner and George W. Wright, Saranac Lake, N. Y., Progress Report on a Study of Disability in Silicotics.
Dr. Clarence O. Sappington, Chicago, Health Problems of Women in Industry.
Dr. Edward J. Stieglitz, Washington, D. C., Health Problems of the Older Employee and Employer.
William M. Gafafer, Dr.Sc., Bethesda, Md., Reducing Manpower Losses.
Philip Drinker, Ch.E., Boston, Control of Health Hazards in Shipbuilding, Including Welding.
Francis R. Holden, Ph.D., and W. C. L. Hemeon, M.S., Pittsburgh, Report on High Points of Foundation Plant Surveys.
Lieut. Col. Theodore F. Hatch, S. C., Fort Knox, Ky., Physiologic Effects of Heat.
Allen D. Brandt, D.Sc., sanitary engineer, U. S. Public Health Service, Application of Engineering Control Measures in Munitions Plant.
Theodore C. Waters, lawyer, Baltimore, Legal Developments in 1943 Respecting Industrial Health.
Almon E. Roth, Washington, D. C., Healthful Working Conditions Improve Labor Relations.

Proposed School of Physical Therapy.—A committee has been named to survey the field of physical therapy and to submit recommendations for the establishment of an institution of physical therapy for the study and teaching of the subject. The work will be financed with a grant of $25,000 from Bernard M. Baruch, New York, who has been interested in the subject for many years and who wishes to set up such a project as a memorial to his father, the late Dr. Simon Baruch, professor of hydrotherapy, Columbia University College of Physicians and Surgeons, New York. Dr. Ray Lyman Wilbur, chancellor of Stanford University, has been named chairman of the committee, other members of which include Drs. Kristian G. Hansson, medical director of the Physical Therapy School at the Hospital for Special Surgery, New York; Carl R. Comstock, Saratoga Springs, N. Y.; Benjamin A. Strickland Jr., lieutenant colonel, M. C., U. S. Army, Tucson, Ariz.; Charles F. Behrens, commander (MC), U. S. Navy, head of the x-ray department, Naval Medical Center, Bethesda, Md.; John S. Coulter, medical director of the Physical Therapy School at Northwestern University, Chicago; Dr. Frank H. Krusen, medical director of the Mayo Clinic Department and School of Physical Therapy, Rochester, Minn., and William T. Sanger, LL.D., president of the Medical College of Virginia, Richmond.

Southern Medical Association.—On November 16-18 the Southern Medical Association will hold its annual session in Cincinnati at the Netherland Plaza Hotel, with the Campbell-Kenton County Medical Society of Kentucky and the Academy of Medicine of Cincinnati acting as hosts. This is the first time the Southern Medical Association has met north of the Mason-Dixon Line. At a general public session Tuesday night Dr. Tom D. Spies, Birmingham, Ala., and Cincinnati, will be presented with the Research Medal of the association "in recognition of his outstanding contributions to our knowledge of the science of human nutrition, especially in his elucidation of the earlier and better methods of diagnosis and treatment of disease." Other speakers at this session will include Dr. Harvey F. Garrison, Jackson, Miss., president of the association, on "The Nation's Most Valuable Asset and Its Greatest Problem." The general program includes the following speakers:

Norman T. Kirk, surgeon general of the U. S. Army, The Care of Battle Casualties and the Casual Sick.
Dr. James E. Paullin, Atlanta, Ga., President, American Medical Association, The Future of American Medicine.
Dr. James W. Bruce, Louisville, Free Diet in Juvenile Diabetes.
Dr. L. Wallace Frank, Louisville, Surgical Treatment of Cancer of Uterine Body in the Obese.
Dr. Walter Dean, Louisville, Otitis Media Still Takes Its Toll.
Dr. William A. Altemeier, Cincinnati, Penicillin in Surgery.
Dr. S. Spafford Ackerly, Louisville, Is There An Anxiety Component of Every Complaint?
Dr. Nathan Chandler Foot, New York, Glandular Metaplasia of the Epithelium of the Urinary Tract.
Comdr. Edward L. Bortz (MC), U. S. Naval Reserve, New Horizons in Medicine.
Dr. Bernard H. Nichols, Cleveland, The Elevation of Excretory Urography in General Practice.
Major Archibald Fine and Lieut. Theodore B. Steinhausen, M. C., A. U. S., Chest Lesions in Ninety Thousand Prospective Aviation Cadets.
Drs. Hugo T. Engelhardt and Vincent deP. J. Derbes, New Orleans, Allergy to Liver Extract.
Thomas Parran, surgeon general, U. S. Public Health Service, Health Problems Ahead.
Dr. Louis A. Buie, Rochester, Minn., Jeep Disease (Pilonidal Disease of Mechanized Warfare).
Dr. Harold H. Kuhn, Durham, N. C., Degenerative Fibrosis with Neuromatous Proliferation of Plantar Nerve (Morton's Metatarsalgia).
Dr. Paul H. Holinger, Chicago, Post-Thyroidectomy Laryngeal Paralysis: Medical and Surgical Aspects.
Dr. Edward H. Cary, Dallas, Texas, Ocular Headaches.

The section on medical education and hospital training will offer the following program on Tuesday:

Dr. Frank R. Bradley, St. Louis, Education of the House Staff Now and After the War.
Colonel James R. McDowell, M. C., U. S. Army, Postgraduate Training in Army Air Force Hospitals.
Dr. Stanley E. Dorst, Cincinnati, The Effect of the Accelerated Program on Faculty and Students After an Experience of Eighteen Months.
Lieut. Col. Earl H. Perry, M. C., U. S. Army, retired, The Student's Army Specialized Training Program in Action.
Lieut. Col. Rettig Arnold Griswold, M. C., A. U. S., The Function of the Service Command Consulting Surgeon.

Other groups meeting during the session of the Southern Medical Association include the American Academy of Pediatrics, region 2, and the American Public Health Association, southern branch, which will hold only a luncheon meeting of the governing council this year.

FOREIGN

Personal.—The American Bureau for Medical Aid to China announced on October 8 the safe arrival at Calcutta of four medical specialists who are returning to China under its auspices: Miss Evelyn Lin, who will be superintendent of nurses at the National Central University Medical School at Chengtu; Miss Hui-yin Wang, who will be director of public health nursing in Szechuan Province; Dr. Y. K. Wu, who will specialize in chest surgery at the Central Hospital in Kweiyang, and C. S. Hsueh, public health statistician, who will joint the staff of the National Institute of Health at Chungking.

Deaths in Other Countries

Dr. Cecil Rowntree, vice president of the International Cancer Union, died on October 14 at his home, Little Warren, East Grinstead, Sussex, aged 63. He was educated at the University College, London, and had served as Hunterian professor of surgery at the Royal College of Surgeons of England. Dr. Rowntree was consulting surgeon to the Royal Cancer Hospital and emeritus surgeon to the Woolwich Memorial Hospital. He was also chairman of the Westminster Division of the British Medical Association and a fellow of the British Association of Surgeons.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Sept. 17, 1943.

The Proposed National Medical Service: The Government's Proposals

The objections of the medical profession to certain features of the government scheme for a comprehensive medical service have been stated in previous letters. An address by Mr. Ernest Brown, minister of health, to the annual meeting of the Association of Welsh Insurance Committees is of unusual importance as it deals with some of these objections and also discloses the government's proposals more fully than has been done before. He stated that when these were published the fullest opportunity would be given for discussion by the medical profession, local government and the public. Criticism could then be based—for the first time—on full knowledge of what the government has in mind. The first aim must be to cut down some of the limitations on the present service, so that people can get consultant, specialist, hospital and convalescent treatment, Mr. Brown said. The scheme must aim at prevention as well as cure. In spite of statements to the contrary, the minister stated, it was the avowed intention of the government to preserve the important principle of free choice of doctor and clinical freedom of the doctor in treatment. He hoped that the scheme would secure a fuller service of practitioners in congested areas where they were now insufficient. The service would be based on the family as a unit and the general practitioner as its primary attendant. Yet it had been alleged that the government wanted to abolish the family doctor. What was wanted, he said, was to provide a family doctor for millions for whom one was not now available.

Nearly two years ago the government announced its intention of coordinating the voluntary and municipal hospital systems. The new health service, it was explained, would render possible a completely integrated medical service, starting from the family doctor and embracing all institutional services. This would also make available to doctors a full consultant and specialist service from the hospitals. The government also hoped to give the general practitioner a better service for postgraduate courses, so that he could keep abreast of modern developments. Perhaps even more important, the government must see that he had the opportunity for leisure to get the best possible advantage from these courses.

Changes at the Royal College of Surgeons

At a meeting of the fellows of the Royal College of Surgeons the president, Sir Alfred Webb-Johnson, reviewed important recent changes: The primary examination for the fellowship has been made entirely postgraduate, with pathology introduced as an additional subject to anatomy and applied physiology. The interval between graduation and entry for the final examination is now two years. The damage done by bombing to the Royal Colleges of Physicians and Surgeons opened the question of the three Royal Colleges (the third being the College of Obstetricians and Gynecologists) working together in a combined building or in adjacent buildings. The present site of the Royal College of Surgeons had great advantages for such a building. The value of the buildings still standing was estimated at $1,000,000. The president reported the definite view of the council that there must be a portal to the medical profession under the sole control of a professional body, and therefore the council disagreed with the suggestion that a university degree should be a sine qua non for medical qualification.

THE BEVERIDGE SCHEME

A representative committee of the medical profession, the president reported, was discussing the Beveridge scheme with the minister of health. The Royal Colleges were represented by their president, and he had insisted that he must be regarded as representative of consultant surgery. For this purpose the Royal Colleges had held a conference of representatives from all centers in order to obtain the views of all consultants throughout the country. They maintained that some freedom must be left both to doctor and to patient and declined to countenance the conversion of a free profession into a public service. An individual must be left free to enter the medical profession and to practice, they held. The profession must have a large say in the organization and management of the national health service. The administrative structure must allow a generous representation of the profession. The health service must be comprehensive, and the local health authorities as at present constituted did not provide satisfactory areas for dealing with the needs of the population. Some scheme of regionalization was essential. The government declared its intention that opportunities for private practice should be maintained, and the most reasonable way of providing for this seemed to be to apply the national contributory scheme only to those who needed such provision. In planning for positive health and the prevention of disease, the nonmedical proposals of the scheme—particularly improved housing, avoidance of unemployment, children's allowances, disability pay and old age pensions—were more important than revolutionary changes in medical practice.

A Practical Application of the Discovery of the Rh Factor

In a circular to local health authorities, the Ministry of Health points out a practical application of the discovery in 1940 by an American scientist that 85 per cent of the American and British white population have a previously unrecognized factor in their red corpuscles. As it was also found in the rhesus monkey it is called the Rh factor. A particular variety of jaundice and anemia has been known to occur in infants for some years. It seems to run in families, and often several infants in one family are affected. Some are stillborn, and others live only a short time. It has been found that these jaundiced infants nearly always have the Rh factor in their red cells, but their mothers are Rh negative. The infants have been jaundiced and anemic because before birth their red cells have passed into the mother's circulation, where antibodies to the Rh positive cells have developed and passed back into the infant's blood, destroying its red cells. If, however, the infant is given a blood transfusion with Rh negative blood, these antibodies are soon destroyed and its life is saved. If the mother should need blood transfusion after the infant is born, it has been found that she should also receive Rh negative blood.

A Film of Surgery in Chest Disease

A remarkable film entitled "Surgery in Chest Disease" has been shown at a London theater to a distinguished medical audience. It is the first of a series of medical films to be made for the British council and is primarily intended for overseas medical audiences. Surgeon Rear Admiral Gordon Gordon-Taylor, a member of the medical panel of the British Council, said that the film had been made by Gaumont-British Instructional with the cooperation of medical, resident medical and auxiliary staffs of the Brompton Hospital for Diseases of the Chest, where most of the scenes were taken. The general purpose of the film is to show the scope and progress of chest surgery in Britain. Its climax is an operation for total removal of a lung affected with cancer, an operation performed for the first time only ten years ago, one which even now can be undertaken only by a few surgeons of special ability.

BRAZIL

(From Our Regular Correspondent)

Sept. 25, 1943.

Results of Blood Cultures in Pemphigus Foliaceus

As reported in a previous letter (THE JOURNAL, Jan. 23, 1943, p. 276), many cases of a malignant type of pemphigus foliaceus ("fogo selvagem," or wild fire) have occurred and continue to occur in the rural areas of the central states of Brazil and in the neighboring regions of Paraguay and Bolivia as well. The main focus of the disease is the state of São Paulo, where hundreds of cases are already known, and where a special service has been organized to combat the disease. This service, under the direction of Dr. J. P. Vieira, has a hospital, several outpatient clinics and visiting doctors. The cause of the disease is still unsolved; even its infectivity and its contagious nature are subjected to much discussion. Dr. J. Aranha Campos, assistant director of the São Paulo service, has published a study of the results of blood cultures from 600 cases during the febrile stage of the disease. The culture medium used was glucose broth with liquid petrolatum p_H 7.6 in tubes of 10 cc. Equal parts of blood and culture medium were mixed. In 130 of these cases, with temperature of 39 C. (102.2 F.) and above, streptococci, mostly of the hemolytic type, were found in pure culture. As controls, Dr. Campos made blood cultures from all other patients without fever or subjected to artificial fever, and these cultures were always negative or were positive only for Staphylococcus albus. The patients were divided into five groups according to the severity of the disease. The fever is rare in patients with slight symptoms or in the regressive stage of the disease. But the feverish spells are frequent in patients with generalized cutaneous lesions. The fatal cases present several of these feverish spells in the last stage of the illness. The author emphasizes the close relationship between the streptococcic bacteremia and the fever spells and the spread of the bullous cutaneous lesions. The high hospital fatality rate of the disease (about 40 per cent) is explained by Dr. Campos as the effect of the streptococcic toxemia, which coincides with the final diarrhea and hyperpyrexia. In the patients subjected to artificial fever the general condition is not modified, and spread of bullous dermatitis does not occur. Dr. Campos concludes that the hemolytic streptococcus is probably the cause of the disease.

Cancer and Race

Some time ago Dr. Joaquim E. de Alencar published the first part of a study on the epidemiology of cancer in Brazil, the main features of which have been reported in a previous letter (THE JOURNAL, June 12, p. 459). In a new paper he presents the mortality from cancer in Rio de Janeiro according to races and nationalities. As the composition of the city population is not known in relation to color, because this kind of information has never been included in the censuses, and as the information regarding the nationalities would have to be derived from the last census, which was taken in 1920, Dr. Alencar decided to study the trend of mortality from 1903 to 1941, not as specific death rates for each color or nationality, but as a ratio between the absolute number of deaths from cancer to the absolute number of deaths from all causes, in each specific group of population. During the thirty-nine years included in the study the ratio of deaths from cancer to the deaths from all causes in the general population has risen steadily from 0.0013 in 1903-1905 to 0.0036 in 1939-1941, which corresponds to an increase of 174 per cent. The increase has been greater for the white than for the colored people: 201 per cent for the white, 161 per cent for the mulatto and 127 per cent for the Negro.

The differences in the increase of a similar ratio for the several nationalities into which the population is divided in the Brazilian statistical returns present interesting facts. The average increase of 174 per cent for the general population is differentiated as follows for the various nationalities: Brazilian 187 per cent, Portuguese 213, Italian 115, Spanish 310, German 306, English and Anglo-American 400, other European 149 and Asiatic (mainly Syrian) 385. It is not easy to grasp the complete significance of these figures, but Dr. Alencar points out the larger increase of the ratio in the population of European descent, particularly nordic, a fact similar to the higher death rates shown by him in the first part of his study for the southern Brazilian cities, where the amount of people of European descent is larger. It is interesting to recall, from the first part of the study, the increasing trend of the mortality from cancer in Rio de Janeiro since the beginning of the century: 33.8 per hundred thousand in 1902-1911, 41.7 in 1912-1921, 45.9 in 1922-1931 and 55.2 in 1932-1941. For the last five years, 1938-1942, the progression of the cancer death rate has been 55.0, 59.0, 65.3, 66.4 and 67.3.

Healthy Carriers of Endameba Histolytica Cysts

Dr. A. Franco do Amaral, from the Department of Parasitology of the University of São Paulo, and Dr. C. Avila Pires, physician of the penitentiary of the state of São Paulo, report the results of a survey in a sample of 300 inmates of the penitentiary to study the incidence of Endameba histolytica cysts in healthy persons. All the individuals examined were apparently in good health at the moment of the examination. The examinations have been made by the Faust zinc sulfate centrifugal flotation method. As far as the authors are aware it is the first time this method has been used for an extensive survey in Brazil. The individuals in the sample were subjected to a series of successive examinations, positive carriers having been found even in the fifth examination. Only the sixth examination showed no more cyst passers. The examinations were performed for each person during a period of twenty days with the hope of obtaining a fecal specimen corresponding to a stage of maximum production of cysts. Of the total of 300 persons examined 118 were positive for cysts in the total of five examinations (39.3 per cent). The first examination showed 64 positive results (21.3 per cent), the second 24 (8.0 per cent), the third 17 (5.6 per cent), the fourth 10 (3.3 per cent), the fifth 3 (1.0 per cent) and the sixth none. The large majority of the positive carriers were agricultural laborers from scattered districts of the state. The very good hygienic conditions of the penitentiary led the authors to exclude the possibility of the infection having been contracted at the institution. Such a high incidence of cysts carriers, as compared with that observed in other countries where the same method has been employed, suggests its use to survey other groups of healthy persons in Brazil in order to furnish a basis for estimating the real significance of amebiasis in the country.

Marriages

GEORGE E. ROULHAC, Florence, Ala., to Miss Polly Ann Billington of Franklin, Tenn., near Oran, Algiers, North Africa, October 2.

HERBERT RICHARDSON DOVE, Columbia, S. C., to Miss Jewel Gwendolyn Rhinehart of Leesville, September 9.

TOM JERRY SMITH, Covington, Ky., to Miss Martha Geraldine Allen of St. James, Mo., in August.

LYMAN DAVID HEIM, Schuylkill Haven, Pa., to Miss Lulu Longenberger of Nuremberg in August.

FRANK S. CROSS, Lansing, Mich., to Miss Mary Charlotte Keith of Chicago, June 29.

ALBERT EDEN CREMER, St. Louis, to Miss Evelyn Edith Kline of Columbia, S. C., in July.

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Deaths

Joseph Milton Heller ● Washington, D. C.; Georgetown University School of Medicine, Washington, 1896; an Affiliate Fellow of the American Medical Association; assistant demonstrator of anatomy at his alma mater from 1897 to 1898; professor of tropical medicine at the George Washington University School of Medicine from 1904 to 1910; dispensary staff member at the Emergency and Garfield hospitals from 1896 to 1898; veteran of the Spanish-American War, Philippine Insurrection and World War I; in charge of supply of water in Manila during cholera epidemic in 1902 and received commendation by the late President William Howard Taft, then governor general of the Philippines; commissioned major in the medical reserve corps of the U. S. Army in 1917; later served as division sanitary inspector and acting chief surgeon of the 90th division; commanding officer of Base Hospital at Fort Riley, Kan., General Hospital number 23, Hot Springs, N. C., and number 22 in Philadelphia; lieutenant colonel in the medical corps of the U. S. Army from 1918 to 1922; colonel in the medical reserve corps not on active duty; participated in General Lawton's advance in northern Luzon and surgeon of Major Batchelor's "Lost Battalion"; recommended for Congressional Medal of Honor in 1915; received Silver Star citation from the President of the United States for attending wounded under fire, Battle of Naguilian, Luzon, Dec. 7, 1899; since 1938 surgeon general of the Military Order of the World War; for many years national secretary of the Caraboa, organization of officers who served in the Philippines; member of the Military Order of Foreign Wars, Military and Naval Order of the Spanish American War and the Association of Military Surgeons of the United States; died in the Naval Hospital, National Naval Medical Center, Bethesda, Md., October 11, aged 71, of coronary artery disease.

George C. Chene, Detroit; Detroit College of Medicine, 1905; member of the Michigan State Medical Society and the Radiological Society of North America; past president of the Detroit Roentgen Ray and Radium Society; curator of the museum and clinical assistant in gynecology at his alma mater from 1908 to 1910, clinical assistant in gynecology in 1911, clinical assistant in roentgenology from 1911 to 1913, assistant clinical professor of roentgenology from 1913 to 1918, professor and head of roentgenology from 1918 to 1920 and assistant professor of roentgenology, 1920-1921; established the first x-ray laboratories at St. Mary's and Providence hospitals in Detroit and at the Hotel Dieu Hospital in Windsor, Ont., Canada; his retirement from active duty at the Providence Hospital was marked by the staff with a public banquet at which he was the recipient of an honor plaque for long and faithful service; secretary of the hospital staff for many years; staff member of St. Mary's, Receiving, Eloise and Providence hospitals either as attending or as consulting radiologist; died in the Harper Hospital August 31, aged 61, of carcinoma of the tongue and throat.

Peter Whitman Rowland, University, Miss.; Memphis (Tenn.) Hospital Medical College, 1882; professor of pharmacology at the University of Mississippi School of Medicine; member and past president of the Mississippi State Medical Association and the Mid-South Post Graduate Medical Assembly; fellow of the American College of Physicians; contract surgeon, University of Mississippi Student Army Training Corps, during World War I; reported to be first physician to administer oxygen through the nose tube in the treatment of pneumonia, using the device on a patient in 1903; the medical library at the University of Mississippi was named in his honor in 1939; two years previously he volunteered his services to augment the library and became field director; on the staff of the Bramlett Hospital, Oxford; died in Oxford, October 14, aged 82, of coronary thrombosis.

Edmund Pendleton Shelby ● Sarasota, Fla.; University of the City of New York Medical Department, 1891; clinical professor of medicine at the University and Bellevue Hospital Medical College, New York, from 1918 to 1934; formerly instructor in pharmacology and therapeutics at the Cornell University, New York; for many years on the staff of the New York City Hospital; past president of the New York Pathologic Society and the West End Medical Society; formerly chairman of the section on medicine of the New York Academy of Medicine; fellow of the American College of Physicians; consultant in medicine at the Florida Medical Center, Venice; author of "Hodgkin's Disease," 1907, and "Balancing the Physical Budget," in *Hygeia*, 1936; died in Lexington, Ky., September 22, aged 76, of carcinoma.

Charles P. Arzt, St. Paul; University of Minnesota College of Medicine and Surgery, Minneapolis, 1895; died July 29, aged 73, of ventricular fibrillation.

Alfred Goodrich Bailey, Berkeley, Calif.; Homeopathic Hospital College, Cleveland, 1889; died August 22, aged 76, of tuberculosis and nephritis.

Elizabeth Ethel Bowen, Lincoln Park, N. J.; Woman's Medical College of Pennsylvania, Philadelphia, 1907; died August 4, aged 61, of heart disease and multiple myeloma.

Arnold Louis Brandt ● Pacific Beach, Wash.; Washington University School of Medicine, St. Louis, 1902; formerly associated with the Indian Service; died in the Barnes Hospital, St. Louis, July 5, aged 66, of getroperitoneal hemorrhage due to ruptured aneurysm of the abdominal aorta.

Mills C. Braaher, Linden, Ind.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; on the staff of Culver Hospital, Crawfordsville, where he died August 13, aged 78, of appendicitis, gallstones and peritonitis.

John Joseph Brennan, Worcester, Mass.; Harvard Medical School, Boston, 1886; member of the Massachusetts Medical Society; in 1937 was presented with a scroll commemorating fifty years' membership in the Worcester District Medical Society; on the staffs of the Worcester City Hospital and St. Vincent Hospital, where he died August 26, aged 79, of arteriosclerosis.

John L. Brown, Campbell, Mo.; St. Louis College of Physicians and Surgeons, 1890; member of the Missouri State Medical Association; died in the Poplar Bluff Hospital, July 2, aged 73, of chronic myocarditis.

John W. Brown, Jefferson Township, Ind.; Hospital College of Medicine, Louisville, Ky., 1881; died July 10, aged 91, of cerebral hemorrhage.

Mabel Margaret Wirt Butka, Pomona, Calif.; College of Medical Evangelists, Loma Linda and Los Angeles, 1918; on the staff of the Pomona Valley Hospital; died in La Verne August 22, aged 48, of accidental carbon monoxide poisoning.

Malcolm Samuel Campbell, Malvern, Iowa; Tufts College Medical School, Boston, 1915; served one month on the staff of the Binghamton (N. Y.) State Hospital as resident in psychiatry; died in Binghamton August 7, aged 52, of subdural hematoma.

William Price Connally, McGregor, Texas; Medical Department of Tulane University of Louisiana, New Orleans, 1898; a captain in the medical corps of the U. S. Army during World War I; died in a Waco hospital July 11, aged 72, of cerebral hemorrhage.

Isaac Gladstone Cook, St. Louis; St. Louis College of Physicians and Surgeons, 1911; served during World War I; died in the Veterans Administration Facility, Jefferson Barracks, August 8, aged 69, of bronchopneumonia.

Lucy Gusta Coon ● Sterling, Ill.; State University of Iowa College of Medicine, Iowa City, 1927; medical adviser for women at the University of Illinois, Urbana, from 1936 to February 1943 and since the latter date in a defense plant at Dixon; died in the Grant Hospital, Chicago, August 29, aged 47, of pulmonary embolism.

Louis Leopold Davidson, Newark, N. J.; University of Vermont College of Medicine, Burlington, 1902; Cornell University Medical College, New York, 1903; member of the Medical Society of New Jersey; also a lawyer; formerly coroner of Essex County; a director of the Lincoln National Bank; on the staff of the Newark Beth Israel Hospital, where he died August 28, aged 63, of cerebral hemorrhage.

Benjamin Lawrence Dorsey, Los Angeles; Marions-Sims College of Medicine, St. Louis, 1896; Barnes Medical College, St. Louis, 1899; formerly professor of gynecology at the Barnes Medical College; died in Guadalajara, Mexico, August 2, aged 73, of acute enterocolitis.

John William Eckstein, Ryan, Iowa; Northwestern University Medical School, Chicago, 1916; served in France and as a first lieutenant in the medical corps of the U. S. Army during World War I; died in the Veterans Administration Facility, Des Moines, August 7, aged 53, of lobar pneumonia.

Walter Brownley Foster, Richmond, Va.; Medical College of Virginia, Richmond, 1901; associate public health physician for the Virginia Department of Health since 1940; director of public welfare for the city of Richmond from 1924 to 1940; organized the city health department in Roanoke and served as health officer from 1910 to 1924; past president of the Roanoke Academy of Medicine and a member of the governing council of the American Public Health Association; died August 10, aged 65, of coronary thrombosis.

Frank Harrold Grandy ● Seattle; Indiana University School of Medicine, 1926; died August 15, aged 45, of hypertension and cerebral hemorrhage.

William Walter Grantier, Buffalo; University of Buffalo School of Medicine, 1899; died August 8, aged 67, of chronic myocarditis, arteriosclerosis and cerebral hemorrhage.

Richard Watson Graves, Arlington, Texas; University of Louisville (Ky.) Medical Department, 1883; died August 5, aged 85, of senility.

Samuel Thomas Gray ● Albia, Iowa; State University of Iowa College of Medicine, Iowa City, 1889; died in Wichita, Kan., August 12, aged 77, of uremia.

Charles Gregory Griffin, Miami, Fla.; University of Nashville (Tenn.) Medical Department, 1908; member of the Florida Medical Association; died in Nashville, Tenn., August 31, aged 60, of coronary occlusion.

Archer Thomas Hampton, Oakwood, Texas; Southern Methodist University Medical Department, Dallas, 1913; member of the State Medical Association of Texas; chairman of the governing board of the Orphans Home at Corsicana and the Old Folks Home at Ennis; died July 7, aged 59, of coronary thrombosis.

George Wesley Horrom, Rolla, Mo.; Medical College of Indiana, Indianapolis, 1894; member of the Missouri State Medical Association; past president of the Phelps-Crawford Counties Medical Society; died July 10, aged 73, of cerebral hemorrhage.

Andrew Richard Johnson, Isanti, Minn.; University of Minnesota Medical School, Minneapolis, 1929; member of the Minnesota State Medical Association; on the staff of the Asbury Hospital, Minneapolis, where he died July 25, aged 44, of pulmonary embolism following an appendectomy.

Frederick Marshman Kennison, Boston; Tufts College Medical School, Boston, 1905; member of the Massachusetts Medical Society; died suddenly July 31, aged 80.

James Oscar Meade, Mendota, Va.; Tennessee Medical College, Knoxville, 1898; member of the Medical Society of Virginia; died July 17, aged 70, of hypertension and thrombosis.

John William Montrose, Grass Valley, Calif.; Bellevue Hospital Medical College, New York, 1892; died in Stockton July 26, aged 84, of senility.

James T. Myers ● Hotchkiss, Colo.; University Medical College of Kansas City, Mo., 1894; served as health officer; died July 28, aged 75, of cerebral hemorrhage.

William Frederick Nienstedt, Hartford, Kan.; College of Physicians and Surgeons, Medical Department Kansas City University, Kansas City, 1898; member of the Kansas Medical Society; died in the Newman Memorial County Hospital, Emporia, July 6, aged 67, of coronary thrombosis and sclerosis.

Albert Sidney Oburn ● Altoona, Pa.; Jefferson Medical College of Philadelphia, 1896; a member of the exemption board during World War I and recently a member of the induction board; a director of the Blair County Tuberculosis Society; chief of the medical staff of the Altoona Hospital; died August 9, aged 68, of coronary occlusion.

Richard John O'Connell, Chicago; Rush Medical College, Chicago, 1899; formerly instructor in medicine at the Loyola University School of Medicine; for many years on the staffs of St. Joseph's and West Side hospitals, Chicago, and St. Francis Hospital, Evanston, Ill., where he died August 22, aged 74, of auricular fibrillation and chronic myocarditis.

Frederick Strattner Orem ● Baltimore; University of Maryland School of Medicine, Baltimore, 1900; associate in pediatrics at his alma mater; on the dispensary staff of the University Hospital, where he died August 8, aged 70, of nephritis.

Horace M. Paynter, Salem, Ind.; University of Louisville (Ky.) Medical Department, 1890; died August 18, aged 77, of cerebral hemorrhage, hypertension and diabetes mellitus.

Thomas H. Pope ● Newberry, S. C.; Medical College of the State of South Carolina, Charleston, 1908; past president of the Newberry County Medical Society; member of the board of trustees of his alma mater; member of the District Advisory Medical Board of Selective Service; died August 6, aged 67, of coronary occlusion and hypertension.

Francis M. Roberts, Jacksonville, Ill.; Cincinnati College of Medicine and Surgery, 1900; member of the Illinois State Medical Society; formerly postmaster and member of the school board of Lynnville; served three terms as mayor of Chapin and several terms as member of the school board; at one time superintendent of the Morgan County Tuberculosis Sanatorium "Oaklawn"; on the staffs of Our Saviour's Hospital and the Passavant Memorial Hospital, where he died August 6, aged 73, of cerebral hemorrhage.

Allen Charles Tiffany, Mackinaw City, Mich.; Detroit College of Medicine and Surgery, 1914; served overseas and as a major in the medical corps of the U. S. Army during World War I; major in the medical reserve corps not on active duty; served on the city council for a number of years; on the courtesy staff of the Little Traverse Hospital, Petoskey, where he died August 10, aged 63, of coronary and cerebral arteriosclerosis and hypertension.

Juan Arango Villegas, Cliffside Park, N. J.; Jefferson Medical College of Philadelphia, 1929; member of the Medical Society of New Jersey; school physician for Cliffside Park and formerly at Fairview; on the staffs of Holy Name Hospital, Teaneck, Englewood Hospital and North Hudson Hospital, Weehawken; died in the Medical Center of Jersey City August 18, aged 41, of pneumonia.

William Desmond Wagar, Michigan, N. D.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1898; member of the North Dakota State Medical Association; for many years mayor; died in Kingston, Ont., Canada, July 23, aged 68, of carcinoma.

Bruce Courtnay M. Whyte ● Battle Creek, Mich.; Trinity Medical College, Toronto, Ont., Canada, 1904; formerly on the staff of the Battle Creek Sanitarium; on the staff of the Community Hospital, where he died August 17, aged 64, of carcinoma of the stomach and myocardial insufficiency.

DIED WHILE IN MILITARY SERVICE

William Morgan Chew, New York; University of Virginia Department of Medicine, Charlottesville, 1931; member of the Medical Society of the State of New York and the American Academy of Ophthalmology and Otolaryngology; specialist certified by the American Board of Otolaryngology; formerly a member of the staffs of Bellevue and St. Luke's hospitals; entered the medical corps of the U. S. Naval Reserve as a lieutenant commander on June 24, 1942; died in the Johns Hopkins Hospital, Baltimore, September 4, aged 39.

Hugh Beauregard Disharoon ● Lieutenant Colonel, M. C., U. S. Army, Lewisburg, Tenn.; Vanderbilt University School of Medicine, Nashville, 1935; appointed a lieutenant in the medical reserve corps of the U. S. Army on June 12, 1935 and began active duty in the medical corps of the regular Army on July 1, 1940; assigned to the Fitzsimons General Hospital, Denver; rose through the various ranks to that of lieutenant colonel on Jan. 15, 1943; died in the Station Hospital, Fort Benning, Ga., August 22, aged 32, of virus pneumonia.

John Deetz Houck, Scranton, Pa.; Harvard Medical School, Boston, 1941; appointed a lieutenant in the medical corps, Army of the United States, April 23, 1942; began active duty Aug. 1, 1942; attached to the 407th Infantry, Camp Maxey, Texas; later commissioned a captain; died, in the O'Reilly General Hospital, Springfield, Mo., October 3, aged 27, of cerebral edema due to brain tumor of the left frontal lobe.

Thomas Lacy Morrow ● Medical Director, Captain, U. S. Navy, Mebane, N. C.; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1915; appointed an assistant surgeon in the U. S. Naval Reserve, April 10, 1917 and on June 23, 1917 a lieutenant (jg) in the medical corps of the U. S. Navy; advanced to the rank of captain in July 1941; served aboard the U. S. S. *Nero, Eurona, Patoka* and *Tulsa;* served at the Naval Base, Cardiff, Wales, with the Destroyer Force, the Atlantic Fleet, at the Naval Hospital, and the Pharmacist's Mates' School, Norfolk, Va., the Marine Barracks and Naval Hospital at Parris Island, S. C., the Naval Hospital, Boston, and on the Asiatic Station; fellow of the American College of Surgeons; awarded a letter of commendation for his work as head of the Medical Relief Unit at Belize, British Honduras, after the hurricane of September 1931 and the medal of distinction by the president of Nicaragua for services rendered in that country from May 1931 until November 1932 as brigade surgeon, second brigade of marines; died at Guilford College, N. C., August 11, aged 54, of cerebral hemorrhage, while on leave from his post of duty at the Naval Hospital, Marine Barracks, New River, N. C.

Bureau of Investigation

MISBRANDED COSMETICS

Abstracts of Notices of Judgment Issued by the Food and Drug Administration of the Federal Security Agency

[EDITORIAL NOTE.—These Notices of Judgment are issued under the Food, Drug and Cosmetic Act and are designated C. N. J. The abstracts that follow are given in the briefest possible form: (1) the name of the product, (2) the name of the manufacturer, shipper or consigner, (3) the date of shipment, (4) the composition, (5) the type of nostrum, (6) the reason for the charge of misbranding and (7) the date of issuance of the Notice of Judgment—which is considerably later than the date of the seizure of the product and somewhat later than the conclusion of the case by the Food and Drug Administration.]

Ambrosia Tightener.—Hinze Ambrosia, Inc., New York. Shipped between Dec. 6, 1940, and Jan. 3, 1941. Composition: an astringent consisting essentially of alcohol, water, zinc phenolsulfonate and perfume. Misbranded because of the following false and misleading representations on label and in accompanying circular: "Tightener for large pores, wrinkles, oiliness . . . Tends to prevent the enlargement of pores. It is especially useful to lessen oiliness and aids in clearing up pimples and muddy complexions resulting from external causes . . . Stimulates the skin. Ambrosia cream contains ingredients that resemble the natural sebaceous oils and fats of the human skin . . . It helps to make dry skin smooth and thus aids in removing the annoying tiny lines caused by skin dryness."—[*C. N. J., F. D. C. 84; February 1943.*]

Camellios.—Walter M. Willett, San Francisco. Shipped Aug. 28, 1941. Composition: essentially calcium carbonate, bismuth subcarbonate, alcohol and water. Misbranded because circular accompanying package falsely represented that this product when used as directed was a natural aid to beauty and greater charm, would keep the skin delicate and youthful, would preserve the youthful creamy appearance of the skin, was a stimulating lotion, would protect the skin against wind and sun, "was beauty and youth," would protect the face against the ravages of weather and prevent the disagreeable effects of exposure to the sun and wind.—[*C. N. J., F. D. C. 85; February 1943.*] This product was also misbranded under the provisions of the law applicable to drugs.

Chin-Firm.—Burtley Company, New York. Shipped between April 1 and 11, 1941. Composition: essentially a clay, with water and perfume. Misbranded because of false and misleading representations that this product would produce a firm chin and throat line, besides correcting crow's-feet.—[*C. N. J., F. D. C. 87; February 1943.*]

Chin-Up.—L. R. Kallman and Company, Chicago. Shipped June 3, 1941. Composition: 53.4 per cent of alcohol with tannic acid, water and perfume. Misbranded because it contained a larger amount of alcohol than the 39 per cent declared on the label. Further misbranded because label falsely represented that the use of this product would result in elimination of crepy skin or flabby tissues of neck or skin.—[*C. N. J., F. D. C. 88; February 1943.*]

La Bonita Hollywood Skin Stimulant and La Bonita Hollywood Texture Oil.—House of Hollywood, Los Angeles. Shipped May 2, 1941. Composition not reported. The first-named was misbranded because its designation falsely represented that the product contained some ingredient capable of stimulating the skin. The second was misbranded because of the misleading term "Texture Oil" in its name and because the directions for use gave the false impression that this preparation would affect the structure of the skin, whereas it would not.—[*C. N. J., F. D. C. 86; February 1943.*]

Natone Natural Oil for the Hair.—J. D. Bentley, Los Angeles. Shipped June 20, 1941. Composition: essentially saponifiable and unsaponifiable fats, perfume, water and a small amount of phenol. Misbranded because label falsely represented that this product would promote the growth of hair, since it did not contain any ingredient capable of producing that result.—[*C. N. J., F. D. C. 89; February 1943.*]

S-T-D "The" Hair Tonic.—George A. Dustin, Chicago. Shipped Dec. 17, 1941. Composition: essentially small amounts of potassium arsenite, sodium borate and water. The potassium arsenite contained arsenic equal to 0.2 gram per hundred cubic centimeters. Misbranded because of the following false and misleading statements in labeling: "Stops the dandruff. 'The' Hair Tonic for dandruff, falling hair, itching scalp and all scalp ailments . . . Wet scalp with Ess-Tee-Dee Hair Tonic and massage every day until scalp is free from dandruff . . . For best results, shampoo the hair once each week, then apply Ess-Tee-Dee Hair Tonic after hair has dried and continue applications every third or fourth day until scalp is free from dandruff and then use Tonic only as often as it is necessary to keep the scalp in a clean and healthy condition. . . . 'The' Hair Tonic."—[*C. N. J., F. D. C. 90; February 1943.*] The product was also declared misbranded under the provisions of the law applicable to drugs.

DANGEROUS TO HEALTH

Because of Inadequate Warnings on Labels

[EDITORIAL NOTE.—These abstracts differ from other abstracts of Notices of Judgment issued by the Food and Drug Administration of the Federal Security Agency which have appeared in these pages in that they deal with nostrums which were misbranded because their labels failed to carry adequate warnings against giving them to children or using them in those pathologic conditions in which they might be dangerous to health, or caution against unsafe dosages or methods or duration of administration or application, for the protection of the user. The abstracts that follow are given in the briefest possible form: (1) the name of the product; (2) the name of the manufacturer, shipper or consigner; (3) the date of shipment; (4) the composition; (5) the type of nostrum; (6) the reason for the charge of misbranding, and (7) the date of issuance of the Notice of Judgment—which is considerably later than the date of the seizure of the product and somewhat later than the conclusion of the case by the Food and Drug Administration.]

Real-Lax Chewing Laxative.—Pennsylvania Drug Products Corporation, Pittsburgh. Shipped between July 10 and Aug. 7, 1941. Composition: a peppermint-flavored gum containing phenolphthalein. Misbranded because label failed to warn adequately against use in those pathologic conditions wherein product might prove dangerous to health, or against unsafe duration of administration, for protection of user, since label did not contain a warning against use when abdominal pain, nausea, vomiting or other symptoms of appendicitis are present, and against frequent or continued use which might result in dependence on laxatives.—[*D. D. N. J., F. D. C. 618; February 1943.*]

T. S. B. Saline.—T. S. Burns and Boys Company, Buffalo. Shipped March 18, 1941. Composition: essentially a mixture of partially dehydrated epsom salt and Glauber's salt with traces of magnesium carbonate and sodium chloride. Misbranded because indefinite dosage directions on label might cause danger to health of young children. Misbranded further because labeling did not adequately warn against giving it in those pathologic conditions wherein use of product might be dangerous to health, or caution against unsafe dosage or duration of administration, since the package carried no warning to avoid the product when symptoms of appendicitis are present, such as abdominal pain, nausea or vomiting, or caution against frequent or continued use when it might result in dependence on cathartics to move the bowels. Again misbranded because of label misrepresentations that the product would be efficacious as a laxative and intestinal cleanser and effective in treating rheumatism, constipation, indigestion, colds, skin rash, biliousness and many conditions due to faulty elimination, since it would not be useful for such purposes. Misbranded further because of label representation that magnesium carbonate was an active ingredient, whereas it was present only in traces. Misbranded also because label failed to bear common or usual name of each ingredient or an accurate statement of the quantity of contents.—[*D. D. N. J., F. D. C. 556; November 1942.*]

Vitalax (Special Formula No. 8558).—Medical Specialty Company, San Antonio, Texas. (Repackager of product, which originated in Bristol, Tenn.) Shipped Feb. 1, 1941. Composition: phenolphthalein (about 1 grain per tablet) with extracts of yeast and bile. Declared misbranded for the following reasons: labeling of tablets in original container bore no directions for use, and in the case of the repackaged tablets, the statement suggesting the dose was not a suitable direction for use of laxative tablets of this composition; labeling failed to bear adequate warning against giving to children when such use might be dangerous to health, or to caution against unsafe dosage or methods or duration of administration, since adequate warning was not given against potential danger of establishing the laxative habit; no warning to discontinue use if skin rash appeared, and, in the case of the repackaged portion, there was no caution against use when symptoms of appendicitis are present; label statements as to composition were false and misleading in not revealing the material fact that product contained phenolphthalein, a coal-tar laxative drug; designations "Vitalax" and "Vitamin B Laxative" (repackaged portions) gave the false impression that the laxative action of the tablets was due to their vitamin or vitamin B content, whereas it was actually due to the phenolphthalein; label claims on repackaged portion as to stimulating liver function and producing abundant flow of bile for normal digestion and proper elimination without use of habit forming cathartic drugs were false and misleading, since product was not efficacious for such purposes and did contain a habit forming cathartic drug, namely, phenolphthalein; label claims (on repackaged portion in envelopes) as to toning digestive tract and stimulating flow of bile without use of habit forming cathartic drugs were false and misleading; label claim "non habit forming" in one repackaged portion was false and misleading; labeling failed to bear common or usual name of each active ingredient, since it did not mention one of these, phenolphthalein; labels of repackaged portion did not list common or usual name of one active ingredient, bile extract, since this could not easily be identified under the terms used, "Sodium Taurocholate," "Sodium Glycocholate" and "Bile Salts Compound."—[*D. D. N. J., F. D. C. 558; November 1942.*]

Correspondence

ERRORS IN ARTICLE ON DOCTOR SHORTAGE FROM OFFICE OF WAR INFORMATION

To the Editor:—I have had a large number of calls recently in regard to temporary licensure for the practice of medicine in New York State from physicians who wish to come to New York State under such an arrangement. One of the applicants referred to an article he had read in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

I find in the September 25 issue on page 215, in the middle of the fifth paragraph of the article entitled "Doctor Shortage and Civilian Health in War Time" the following statement: "Only seven states have laws permitting temporary licensure. These are Delaware, Maine, Nevada, Pennsylvania, Washington, New York and Montana." I understand that this article is a comprehensive report prepared by the Office of War Information. I do not know to whom to direct this statement in regard to that information being incorrect.

So far as I am aware there has been no change in the New York law governing the practice of medicine permitting temporary licensure in the practice of medicine. I would be interested to know where the writer of this article obtained that information.

In the next paragraph, the sentence beginning on the last line in the first column reads as follows: "The service found that nine states had medical license reciprocity with New York but none of these states could, by law, admit the foreign doctors." This statement is in error, for at the present time there are no reciprocity agreements between New York State and any other state. The law governing endorsement of licenses was amended by act of legislature in 1940 and at that time all reciprocity agreements were abolished. I think if you will refer to your table entitled "Reciprocity and Endorsement Policies" as published in the statistical number since that time you will find that in that table there is no indication of reciprocity agreements between New York State and any other state. Under the present law a physician from any state who has met all the New York State requirements upon submitting proper credentials and paying the proper fees may receive an endorsement of that license. This is regardless of whether or not that state grants endorsement to a physician holding a New York medical license.

ROBERT R. HANNON, M.D., Albany, N. Y.
Secretary, New York State Board of Medical Examiners.

IMMUNIZATION AGAINST INFECTIOUS DISEASES

To the Editor:—The current comment on immunization against infectious diseases in large cities (THE JOURNAL, September 18) states that immunizations against typhoid were "negligible in frequency as compared with those against diphtheria and smallpox." It appears to be little known that in the spring of 1942 about 90 per cent of the population of the Territory of Hawaii received typhoid-paratyphoid inoculations. This program was instituted by the department surgeon (Brig. Gen. Edgar King) because there was no line of separation between military and civilian health problems in that territory. The wisdom of this move was dramatically revealed by the occurrence of an epidemic of typhoid in Honolulu (described in the *Hawaii Medical Journal*) shortly after the inoculation program was instituted (and long before it was completed). The incidence of typhoid in Hawaii during the postinoculation years should serve as the basis of an interesting study.

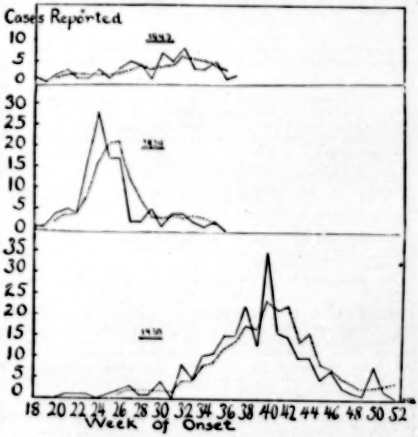
ROBERT J. HOAGLAND, Major, M. C., A. U. S.

PREDICTION OF POLIOMYELITIS INCIDENCE IN EPIDEMIC YEARS

To the Editor:—Attention was recently directed to the communication on the prediction of poliomyelitis incidence in epidemic years (THE JOURNAL, September 4, p. 53). An effort was made to determine whether or not the experience in San Francisco coincided with that presented for Chicago.

As a result of a review of our recent epidemic years, apparently the observation can be made that the epidemiologic statistical pattern of infantile paralysis is still obscure, and the following conclusions may be reached:

1. The 1943 accelerated incidence in San Francisco should not be considered epidemic.



Poliomyelitis in San Francisco. Solid line, cases reported by week of onset. Dotted line, same, using moving average (three weeks).

2. No standard for predicting the peak of an epidemic can be determined at least in San Francisco, as the interval from initial increase to peak varies between the years 1930 and 1934 from four to seven weeks.

3. Again, for San Francisco, it is not possible to assert with assurance that seasonal prevalence is fixed or to be predicted in any years. In 1930 the peak came in October, in 1934 in June; in the current cases the highest incidence was reported in August.

4. Geographically speaking, differences in incidence trends of this particular disease preclude the possibility of making statistical generalizations.

Attached is the chart from which these conclusions were drawn, depicting reported incidence by week of onset and showing the curve of incidence smoothed by use of moving averages for the three epidemic years 1930, 1934 and 1943.

J. C. GEIGER, M.D., San Francisco.
Director of Public Health.

"GROWTH ACCELERATING PROTEIN"

To the Editor:—It is indeed surprising to me that your editorial staff (THE JOURNAL, May 22, p. 232) would select the article by White and Sayers (*Proc. Soc. Exper. Biol. & Med.* **51**:270 [Nov.] 1942) for special recognition. I call particular attention to that part of the article and the editorial which has to do with "soybean protein," because that is my special field. I want to make three particular criticisms of the original article:

1. The "commercial soybean protein" used by the authors was obtained from the Medical Research Division, Sharp & Dohme, Inc., who in turn obtained the material from the Glidden Company. This product is one we make by a special process for an industrial adhesive. An alkaline treatment used in this process practically eliminates the possibility of this material being of good nutritional value. Our protein was further treated with alkali which would tend to decrease further the nutritive value. Although we had every reason to suspect a poor nutritional product we have fed this "soybean protein" and have found our suspicions well founded. We can furnish more data than White and Sayers published that this product is poor nutritionally. This "commercial soybean protein" is an adhesive used in the paper and fiberboard industry and is never sold or recommended for a food product.

2. White and Sayers state that they heated this material in an oven at 105 C. for one hundred minutes to improve the nutritive values of the protein. They quote Wilgus, Norris and Heuser as their authority for this treatment. A check on this article will show that Wilgus, Norris and Heuser obtained the feeding materials for their studies from J. W. Hayward, then of the Wisconsin Experiment Station. By going to one of the papers from Wisconsin by Hayward, Steenbock and Bohstedt (*J. Nutrition* **11**:219 [March] 1936) we find on page 227 a table showing that heat in an electric oven had no appreciable effect on the nutritive value of soybean protein. It is apparent that White and Sayers not only used an inedible soybean product for their test but that the treatment they gave the product would not tend to increase its nutritive value.

3. The literature of science has many references to the high nutritive value of soy protein. We have data in the laboratory of the Glidden Company which will show the nutritive value of the protein as it is found in an edible product, soy flour, which is made for a food and not an adhesive, to be almost the same as the nutritive value of the protein of spray dried skimmed milk powder. The value of such a milk product is certainly accepted. In this laboratory we have data showing seven consecutive generations of rats raised on a simplified diet which derives its protein from soy flour. We discontinued the use of dehydrated yeast as a source of the vitamin B complex some years ago but for comparison with the data presented by White and Sayers we went back and hunted up data from our laboratory where we used yeast as the B complex source and "Labco Vitamin Free" casein as the check lot of protein:

Protein level of diets, 20 per cent.
Test period, fifty-six days.
Animals, piebald rats, 22 ± 1 day of age at start of trial.

Source of Protein	Number of Animals	Average Daily Weight Gain in Grams	Average Daily Food Consumption
Casein	10	2.26	10.5
Soy flour	10	3.07	13.6

Inasmuch as methods for preparing isolated globulins of unquestionably high nutritive value have not been exhaustively explored, we feel that the utmost caution should be exercised in approving or condemning such newcomers in the field of protein nutrition.

J. L. GABBY,
5165 West Moffat Street,
Chicago.

Chairman, Nutrition Committee, Soy Foods
Research Council Soy Flour Association.

USE OF THE TERM PARA

To the Editor:—Although I do not wish to add further confusion to the question regarding the term para, I would like to state that I was taught that para is an abbreviation of and derived from the Latin gerundive form parturienda, the translation of which is "is going to give birth." It is for this reason that many obstetricians have applied the term para 1 and so on to a woman who is in labor for the first time and nullipara to one who has never borne a child. It seems to me that the change in the application of the term para has been made during recent years. It would be desirable if a general agreement could be reached in the application of this term for the sake of uniformity of all hospital records.

HANS SEIDEMANN, Captain, M. C., A. U. S.

VITAMIN DEFICIENCY BY INTERFERENCE

To the Editor:—In line with the article on "Vitamin Deficiency by Interference" in THE JOURNAL, September 18, page 151, it is interesting to note another evidence of this action. In attempts to prevent coccidiosis in chickens, it was shown (Holmes, C. E.; Deobold, H. J., and Herrick, C. A.: Sulfur and Rickets, *Poultry Science* **17**:136, 1938. Diseases of Poultry, edited by H. E. Biester and Louis Devries, Iowa State College Press, 1943, p. 755) that, when 2 to 5 per cent of sulfur was included in a ration in which the sole source of vitamin D was cod liver oil, rickets developed. Apparently the sulfur made the vitamin D of the cod liver oil unavailable for absorption.

MARTIN M. KAPLAN, V.M.D., M.P.H., Waltham, Mass.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS
BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL, Oct. 30, page 585.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* Nov. 15-17 and Jan. 17-19. Sec., Dr. J. S. Rodman, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF INTERNAL MEDICINE. *Written.* Various centers, Feb. 21. Final date for filing application is Dec. 15. Ass't. Sec., Dr. William A. Werrell, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Written. Part I.* Locally, Feb. 12. Final date for filing application is Nov. 15. *Part II.* May or June. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6, Pa.

AMERICAN BOARD OF OPHTHALMOLOGY: Los Angeles, Jan. 15-16. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: *Written and Oral. Part II.* Chicago, Jan. 21-22. Sec., Dr. Guy A. Caldwell, 3503 Prytania St., New Orleans, La.

AMERICAN BOARD OF OTOLARYNGOLOGY: *Oral.* Los Angeles, Feb. 2-5. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City, Ia.

AMERICAN BOARD OF PEDIATRICS: *Written.* Locally, Feb. 4. *Oral.* Philadelphia, March 25-26, and San Francisco, May 6-7. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: *Oral.* Locally, Dec. 20-21. Sec., Dr. Walter Freeman, 1028 Connecticut Ave. N.W., Washington, D. C.

AMERICAN BOARD OF RADIOLOGY: February. Final date for filing application is Dec. 15. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written. Part I.* March. Final date for filing application is Jan. 1. Sec., Dr. J. Stewart Rodman, 225 S. Fifteenth St., Philadelphia.

AMERICAN BOARD OF UROLOGY: *Oral.* Chicago, February. *Written.* Various centers, December 15-17. Final date for filing application is Nov. 15. Sec., Dr. Gilbert J. Thomas, 1409 Willow St., Minneapolis, Minn.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Accident Insurance: Absence of Visible Contusion or Wound as Preventing Recovery for Death from Chloral and Bromide Poisoning.—The defendant insurance company agreed to pay the beneficiary stated benefits if the insured died from bodily injuries effected directly and independently of all other causes through external, violent and accidental means "of which . . . there is a visible contusion or wound on the exterior of the body. . . ." The insured died as a result of taking a medicinal compound containing cannabis, chloral hydrate, potassium bromide and extract of hyoscyamus. When the insurer refused to pay any benefits under the policy the beneficiary instituted suit and recovered judgment. On appeal the court of appeals of Tennessee, western section, reversed the judgment and ordered a new trial on the ground that, while under the undisputed evidence the death of the insured resulted from a bodily injury effected by accidental means, it was not shown that the fatal injury was evidenced by a visible contusion or wound on the exterior of the body. *Travelers Ins. Co.* v. *Ansley* (Tenn.), 124 S. W. (2d) 37; J. A. M. A. **113**:2179 (Dec. 9) 1939. On the second trial the sole issue was with respect to the existence of such evidence on the exterior of the body. At the conclusion of the beneficiary's case the trial judge directed a verdict for the defendant and the case was again appealed to the court of appeals of Tennessee, western section.

The insured was so constituted physically that a comparatively small amount of intoxicating liquor, while not making him drunk, would result in his being rendered highly nervous after the effect had worn off. To relieve this condition, which occurred at irregular periods only, he was accustomed to taking the medicine described, which he procured at a drug store without a physician's prescription. On the evening of Nov. 27, 1936 the insured had several drinks of gin and beer. He was not rendered noticeably intoxicated but nevertheless was so nervous the following day that he remained in bed. That night his wife, the beneficiary in this action, ordered some of the medicine over the telephone from a neighborhood drug store. A 2 ounce bottle of it was sent, with directions written on it to take "two teaspoonsful as needed." The insured was given a dose at 7:30 p. m. and another dose of 2 teaspoons about midnight. He apparently took some more of the medicine about 12 noon of the following day and another dose of 2 teaspoons about 3 o'clock. About 6:30 p. m. his wife noticed that he had a peculiar look about his eyes—that his eyes "looked kind of glassy"—and called in a friend of the family. Shortly after the arrival of this friend, the insured staggered back to his bed, fell face downward on it and went into a deep sleep. A physician was immediately summoned and found the insured in a condition of shock with "a pallor and a thready pulse." The insured was immediately taken in an ambulance to a hospital, where his stomach was washed and he was given cathartics and epinephrine. The driver of the ambulance testified that he observed "a little scraped place or a little scratched place" on insured's left leg and further observed that the insured's lips "were mighty blue . . . real dark blue, or purplish." The insured died while on the emergency table, death being attributed to chloral and bromide poisoning resulting from the cumulative effect of the medicine.

The sole question to be determined by the appellate court was whether there was any evidence before the trial court that there was a "wound or contusion" on the exterior of the insured's body evidencing the fatal injury. Admittedly, if there was no such evidence there was no liability on the part of the insured. A "wound," said the appellate court, is:

> An injury to the body of a person or animal, esp. one caused by violence by which the continuity as skin, mucous membrane or conjunctiva is broken. Webster's New International Dictionary, second edition.

A "contusion" is:

> A bruise; an injury attended with more or less disorganization of the subcutaneous tissue and effusion of blood beneath the skin but without breaking the skin (ibid.).

As justifying its conclusion that there was no wound or contusion in the present case, the court quoted at length from *Paist* v. *Aetna Ins. Co.*, 54 F. (2d) 393, 60 F. (2d) 476, in which the insured's death was caused by sunstroke and in which it was contended that since the insured's face was flushed and sunburned he had a "wound" or "contusion" within the meaning of the policy. The federal trial court in that case said:

> It might be just possible to bring it under the definition of wound given by the Century Dictionary as the meaning of the word in medical jurisprudence and cited by the plaintiff, but in insurance policies courts have again and again refused to adopt technical definitions and have adhered to the ordinary and popular meanings of words used. There is no reason why this rule should not work both ways. Certainly, in ordinary parlance "contusion" is almost exactly synonymous with "bruise," and to say that a flushed countenance is a wound would go beyond the limit of allowable interpretation.

On appeal the circuit court of appeals for the third circuit said with respect to the Paist case:

> We are here dealing with a written contract in which the parties agreed that the accident against which the insured was indemnified was one "evidenced by a visible contusion or wound on the exterior of the body." These words, "contusion," "wound," "visible on the exterior of the body," are of well known commonly understood meaning. "Contusion," which has as its Latin origin "con" and "tundere," to strike, means a bruise or wound caused by a blow, but where, as here, no physical blow is struck, where there is no bruising, where the skin is not blow-bruised or blow-broken, certainly, in common speech and common understanding, the death of the plaintiff's husband from sunstroke cannot be said to be "evidenced by visible contusion or wound on the exterior of the body."

Reverting to the facts of the case at bar, said the appellate court, apart from the scratch on the insured's leg, the condition relied on as constituting a wound or contusion was that just prior to his death his face was pale and his lips were somewhat swollen and blue. We do not think either condition was within the common, ordinary meaning of the words "wound or contusion." A pale face and swollen, blue lips might be regarded as indicating, and as a sign of, an internal disorder or even an injury, but we cannot conclude that either is of itself a wound or contusion within the ordinary meaning of those words, especially in the absence of any expert evidence on the point, which was the situation in this case.

There is, continued the court, moreover, another reason why the beneficiary cannot recover. The burden was on her to show a causal connection between the conditions relied on as constituting a wound or contusion and the fatal injury. In this respect she failed altogether. This is true not only with respect to the scratched place on the insured's leg but also with respect to the condition of his face and lips. As to the former, it is not contended that it had any connection with the injury that resulted in the insured's death. With respect to the blueness of the lips, the ambulance driver, who did not qualify as an expert and who was the only witness who undertook to testify about the matter, said that the condition was due to poor circulation. Apart from his testimony, if it can be regarded as having any probative value, the cause of the condition relied on by the beneficiary as meeting the policy requirement was left to speculation.

The judgment in favor of the insurance company was accordingly affirmed.—*Ansley v. Travelers Ins. Co., 173 S. W. (2d) 702 (Tenn., 1940).*

Society Proceedings

COMING MEETINGS

American Society of Anesthetists, New York, Dec. 9. Dr. McKinnie L. Phelps, 745 Fifth Ave., New York 22, Acting Secretary.

Annual Conference of Secretaries and Editors of Constituent State Medical Associations, Chicago, Nov. 19-20. Dr. Olin West, 535 North Dearborn St., Chicago 10, Secretary.

Association for Research in Nervous and Mental Diseases, New York, Dec. 17-18. Dr. Thomas E. Bamford Jr., 115 East 82d St., New York 28, Secretary.

Eastern Section, American Federation for Clinical Research, New York, Dec. 4. Dr. Charles H. Wheeler, 345 East 68th St., New York, Acting Secretary.

Radiological Society of North America, Chicago, Nov. 29-Dec. 3. Dr. Donald S. Childs, 607 Medical Arts Bldg., Syracuse, N. Y., Secretary.

Seaboard Medical Association, Richmond, Va., Nov. 30-Dec. 2. Dr. Clarence P. Jones, 3117 West Avenue, Newport News, Va., Secretary.

Southern Surgical Association, New Orleans, Dec. 7-9. Dr. Alton Ochsner, 1430 Tulane Ave., New Orleans, Secretary.

Southern Medical Association, Cincinnati, November 16-18. Mr. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1933 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

66:103-226 (Aug.) 1943

Intravenous Hippuric Acid Test of Hepatic Function in Infectious Diseases of Children. J. Meneghello and M. Drinberg.—p. 103.
Studies on Control of Acute Infections of Respiratory Tract: II. Oral Administration of Sulfadiazine at Onset of Acute Respiratory Illnesses. M. Siegel.—p. 114.
Delayed Production of Poliomyelitis Antibodies. J. A. Toomey.—p. 121.
"Visible Tuberculin Patch Test": New Improvement. M. Grozin.—p. 126.
Response to Stimulating Injection of Tetanus Toxoid: Report of Study on Children Previously Immunized with Combined Diphtheria and Tetanus Toxoid. Louise A. Yeazell and W. C. Deamer.—p. 132.
Experimental Basis for Treatment of Hemophilus Influenzae Infections. Hattie E. Alexander.—p. 160.
Treatment of Hemophilus Influenzae Infections and of Meningococcic and Pneumococcic Meningitis. Hattie E. Alexander.—p. 172.

American Journal of Pathology, Ann Arbor, Mich.

19:533-734 (July) 1943

Sclerosing Hemangiomas: Their Relationship to Dermatofibroma, Histiocytoma, Xanthoma and Certain Pigmented Lesions of Skin. R. E. Gross and S. B. Wolbach.—p. 533.
Chondrosarcoma of Bone. L. Lichtenstein and H. L. Jaffe.—p. 553.
Tumors of Sweat Glands. O. Gates, S. Warren and W. N. Warvi.—p. 591.
Gynandroblastoma of Ovary. E. A. Mechler and W. C. Black.—p. 633.
Study of Sensory Ganglions in Macaca Mulatta After Gastrointestinal Administration of Poliomyelitis Virus. G. Y. McClure.—p. 655.
*Pathology of Convalescent Poliomyelitis in Man. J. H. Peers.—p. 673.
Atrophy of Brain Following Puerperal Eclampsia. K. Lowenberg and R. T. Lozman.—p. 697.
Medullary Involvement in Tetanus. A. B. Baker.—p. 709.
Tuberculosis of Tonsils. L. J. Rather.—p. 725.

Pathology of Convalescent Poliomyelitis in Man.—Peers describes the pathologic aspect of the residual lesions of 3 patients with poliomyelitis who had survived 7, 15 and 18½ weeks from the onset of illness. Lesions in the cerebral cortex consisting of perivascular collars of lymphoid cells and interstitial foci of microglia and astrocytes are confined to the paracentral lobules. Only minimal lesions are found in the basal ganglions and thalami. In the midbrain the substantia nigra presents the most severe damage. Lesions in the pons are confined to the tegmentum. Loss of nerve cells is extensive in Deiters' nuclei and more patchy and asymmetrical in the motor fifth and seventh nuclei. Single necrotic cells are still present four months after the acute illness. Perivascular infiltration diminishes and density of fibrous gliosis increases with the duration of convalescence. In the cerebellum, lesions are found only in the tectal nuclei and in the cortex of the vermis. The most prominent changes in the medulla consist of cell loss and scarring in the reticular substance similar to that found in the pons. The spinal cord presents an almost complete loss of nerve cells throughout the entire length of the anterior gray substance. In contrast the lateral horns are comparatively spared, lesions in Clarke's column are patchy and asymmetrical and no definite changes appear in the posterior horns. Replacement gliosis in the anterior horns is at first abundant but delicate, with bulky astrocytes. Later the cells shrink and the fibrils become coarser. In the white matter of the spinal cord there is a mild diffuse demyelinization of most of the ventral and lateral columns with the exception of the pyramidal tracts. In the posterior columns partial demyelinization is confined to the region of the comma tract of Schultze. The anterior nerve roots show severe degeneration consequent to the extensive loss of anterior horn cells. Almost all the coarse motor fibers have disappeared. In contrast, the fine myelinated efferent sympathetic fibers are mostly spared. In the gasserian, dorsal root and sympathetic ganglions there are a very few small foci of lymphoid cells. In the root ganglions only rare cells have disappeared, leaving behind capsules filled with mononuclear cells. The meninges contain only a few scanty foci of lymphoid cells, and no lesions were found in the choroid plexus.

American Journal of Surgery, New York

61:313-456 (Sept.) 1943

*Traumatic Rupture of Kidney. P. Adams.—p. 316.
War Wounds. J. E. Sheehan.—p. 324.
Burns as War Wounds. J. E. Sheehan.—p. 331.
Tissue Grafting. J. E. Sheehan.—p. 339.
Tumors of Neck: Special Reference to Congenital Cysts and Fistulas. E. W. Peterson.—p. 350.
Know Your Patient. J. M. Lynch.—p. 360.
Fractures of Mandible: Report of Fifty Applications of Roger Anderson Skeletal Fixation Appliance. L. Winter.—p. 367.
Inguinofemoral Anatomy: Aspects Significant for Inguinal Herniorrhaphy. E. J. Komora.—p. 380.
Ovarian Cysts Complicating Pregnancy. A. J. Capone.—p. 387.
Uterography: Aid in Diagnosis of Gynecological Pelvic Disorders. B. H. Brunkow.—p. 394.
Sulfathiazole Therapy in General Surgery. G. S. Serino.—p. 400.
Aneurysms of Coronary Arteries: Review of Literature and Report of Case. R. H. Rigdon and H. Vandergriff.—p. 407.
Suture Materials. L. E. Mahoney.—p. 414.
Significance of Schwannomas as Factor in Obscure Cases of Appendicitis. W. R. Laird and L. E. Nolan.—p. 418.
Evaluation of McNealy Cecostomy. J. W. Howser.—p. 421.
Intravenous Use of Morphine Sulfate. R. O. Pearman.—p. 423.

Traumatic Rupture of Kidney.—Adams reviews the problem of traumatic rupture of kidney on the basis of 7 cases seen by him in the course of the last two years. In 3 cases the trauma resulted from horse kicks, a frequent cause in rural areas. One patient fell from a merry-go-round, one fell from a golf bunker, a third suffered a flank injury due to a coasting accident, and the fourth was injured in a football game. The author stresses the need of early operation, but only after primary shock from trauma to nerve plexuses about the kidney pedicle is controlled and before secondary shock from hemorrhage occurs. Operations were performed on 6 of the 7 patients recently observed by him. Preoperative evidence of urinary extravasation usually is demonstrated satisfactorily by intravenous urography. Retrograde urography is thought to be unnecessary and undesirable except when additional information is essential. Urinary extravasation always indicates severe injury of the kidney and is a specific indication for operation. The presence or absence and the degree of hematuria are no criteria of the severity of renal damage, because obviously hematuria is absent when the ureter has been severed or when the renal vessels have been ruptured and the kidney spared from injury or when the fracture line does not enter the renal pelvis. Should blood clots block the ureter, hematuria disappears.

Archives of Internal Medicine, Chicago

72:301-428 (Sept.) 1943

*Vascular Disease Following Toxemia of Pregnancy (Preeclampsia and Eclampsia): Observations on Its Clinical Course. A. Golden, L. Dexter and S. Weiss.—p. 301.
Friedländer's Bacillus Septicemia and Meningitis: Report of Case and Autopsy, with Analysis of 29 Cases Collected from the Literature. J. C. Ransmeier and J. W. Major.—p. 319.
*Sulfadiazine Administered Alone and with Antipneumococcus Serum in Treatment of Pneumococcic Pneumonia. N. H. Shackman and J. G. M. Bullowa.—p. 329.
*Acute Brucellosis: Clinical, Bacteriologic and Serologic Studies of 3 Patients. B. Wise.—p. 346.
Alterations in Biologic Oxidation in Thyrotoxicosis: I. Thiamine Metabolism. R. H. Williams, E. Egana, P. Robinson, S. P. Asper and C. Dutoit.—p. 353.
Modified Technic for Determination of Serum Bilirubin: Preliminary Report of Its Clinical Use. B. Sepulveda and A. E. Osterberg.—p. 372.
Milestones in Diagnosis and Treatment of Gout. E. Neuwirth.—p. 377.
Infectious Diseases: Ninth Annual Review of Significant Publications. H. A. Reimann.—p. 388.

Vascular Disease Following Toxemia of Pregnancy.—According to Golden and his associates, toxemia of pregnancy is an acute type of vascular disease occurring during the last half of pregnancy, usually accompanied by greater or lesser degrees of water retention, sometimes subsiding before delivery and always after delivery. It may appear in women with hitherto normal blood pressure, as well as in those who are already hypertensive. The authors studied cases in which toxemia of pregnancy was imposed on a previously normal cardiovascular renal system. Toxemia of pregnancy (preeclampsia

and eclampsia) occurs in approximately 6 to 9 per cent of all pregnancies. From published reports it is apparent that roughly 25 per cent of women in whom toxemia develops are left with permanent postpartum vascular disease. In 2 per cent of all women who become pregnant, permanent hypertension develops after pregnancy. The duration, more than the severity, of the toxemia determines the development of permanent postpartum vascular disease. A latent period of several months may intervene between toxemia of pregnancy and the development of recognizable permanent hypertension or albuminuria. After toxemia of pregnancy, hypertension may persist for at least a year and then disappear. The postpartum course may be predominantly hypertensive or albuminuric, apparently dependent on a similar predominance in pregnancy. The course is prone to be rapidly progressive in comparison with that of other types of hypertension. Death usually occurs as a result of uremia, cardiac failure or cerebral hemorrhage, as in other types of hypertension. Retinal changes, such as vascular sclerosis, hemorrhages and exudates, occur but no instances of true albuminuric retinitis have been observed. Nephrosclerosis is the characteristic postmortem finding. The pathologic condition of the kidneys in other respects is variable and at times may duplicate that of chronic glomerulonephritis. This is not surprising, as both diseases start with a diffuse glomerular lesion and the hypertensive vascular disorders following the two diseases may run almost identical clinical courses. The late vascular effects of toxemia may be prevented by interrupting pregnancy before the hypertension and albuminuria have lasted for more than three weeks. This applies to mild and to severe toxemia.

Sulfadiazine Alone and with Antipneumococcus Serum in Pneumococcic Pneumonia.—Shackman and Bullowa report their observations on 232 patients with pneumococcic pneumonia treated with sulfadiazine and 70 patients with this condition treated with rabbit antipneumococcus serum in addition. These patients, admitted to the Pneumonia Service of Harlem Hospital from July 1, 1940 to June 30, 1941, were adults for whom the diagnosis of pneumonia was based on history and physical findings and confirmed by roentgen examination. Prior to the institution of therapy, bacteriologic studies of the sputum and the blood were made. Of the 232 patients treated with sulfadiazine alone 31 died—a mortality of 13.4 per cent. Excluding those patients moribund on admission, who died within twenty-four hours, the mortality is 8.3 per cent. Nine of 29 patients, or 31 per cent, with bacteremia died. The total mortality for the patients undergoing combination therapy was 14.3 per cent. The mortality for patients with bacteremia in this group was 22.2 per cent. The authors conclude that sulfadiazine is as effective as sulfapyridine in the treatment of pneumococcic pneumonias. The mortality among patients who received both serum and sulfadiazine was slightly higher than that among the sulfadiazine treated patients, but the former group was composed of more severely ill patients.

Acute Brucellosis.—Three patients suffering from undulant fever afforded Wise an opportunity for study of the persistence of bacteremia and the behavior of demonstrable serum antibodies for Brucella throughout the course of the illness. All 3 patients came under observation during the first month of illness, and all received treatment with sulfonamide drugs. The clinically suspected diagnosis of undulant fever requires substantiation by isolation of brucella organisms from the patient's blood or demonstration of brucella agglutinins in high titer in the serum. Although the 3 patients had serum agglutinins in titers of 1:2,560 or higher, as well as Brucella suis in the blood at the time they came under observation, it was found that agglutinins may not be demonstrable for weeks after the onset of illness. Demonstrable complement fixing antibodies in the serum usually parallel agglutinins in time of appearance, but the complement fixation test has no real advantage over the more easily performed agglutination test. Determination of the opsonocytophagic index has been found to be of no value for diagnosis. The 3 patients were febrile when they came under observation, and blood cultures positive for Brucella suis. Febrile episodes lasted usually seven to ten days, and in the intervals between febrile episodes the patients were symptom free despite the fact that bacteremia was demonstrated. It is not generally recognized that positive blood cultures may be obtained long after complete recovery from the acute illness or even in the absence of a frank history of illness. Such possibilities should serve as a caution against interpretation of a single positive blood culture as indicating clinical disease. Sulfathiazole or sulfadiazine was given with little or no benefit. The use of these drugs has failed to prevent relapse. No significant changes in titers of brucella agglutinin or complement fixing antibodies were observed after sulfonamide therapy. A relatively prompt disappearance of serum agglutinins usually follows complete recovery, but complement fixing antibodies may persist for months.

Archives of Ophthalmology, Chicago

30:291-420 (Sept.) 1943

Reticulin Content and Prognosis in Malignant Melanoma of Uvea. I. S. McGregor and J. Hill.—p. 291.
Aniseikonia: Review of 200 Consecutive Cases Examined on Eikonometer. A. M. Hicks.—p. 298.
Rupture of Aneurysm of Circle of Willis: Relationship Between Intraocular and Intracranial Hemorrhage. J. N. Greear Jr.—p. 312.
Congenital Bilateral Anophthalmos. R. Hare.—p. 320.
Bilateral Uveitis, Poliosis and Retinal Detachment with Recovery: Report of Case. I. Givner.—p. 331.
Embryology of Microphthalmos in Rattus Norvegicus. L. G. Browman and F. Ramsey.—p. 338.
Application of Wetting Agents in Ophthalmology, with Particular Reference to Sulfonamide Compounds. J. G. Bellows and M. Gutmann.—p. 352.
Lipemia Retinalis: Report of Case. H. F. Falls.—p. 358.
Rickettsias in Ophthalmology. H. P. Venable and F. J. Pollock.—p. 362.
Blood Cholinesterase Values of Patients with Glaucoma. A. Rados.—p. 371.

Archives of Surgery, Chicago

47:121-220 (Aug.) 1943

Pathologic Study of Degeneration and Rupture of Supraspinatus Tendon. C. L. Wilson and G. L. Duff.—p. 121.
Anatomic and Clinical Study of Transverse Abdominal Incision. V. L. Rees and F. A. Coller.—p. 136.
Primary Intracranial Lymphosarcoma: Report of 2 Cases and Review of Literature. K. H. Abbott and A. W. Adson.—p. 147.
Effect of Division of Sphincter of Oddi on Bile Diastase of Dog. S. H. Gray, C. J. Heifetz and J. G. Probstein, with Technical Assistance of S. Russi.—p. 160.
*Unusual Cases of Hyperinsulinism and Hypoglycemia. E. Holman, D. A. Wood and A. B. Stockton.—p. 165.
*Hemorrhagic Hypotension and Its Treatment by Intra-Arterial and Intravenous Infusion of Blood. K. G. Kohlstaedt and I. H. Page.—p. 178.
Bilateral Carcinoma of Adrenal Cortex with Metastasis to Iliac Bone. M. Cleveland and Leila Charlton Knox.—p. 192.
Confinement to Bed for Only Twenty-Four Hours After Operation: Means of Preventing Pulmonary and Circulatory Complications and of Shortening Period of Convalescence. D. J. Leithauser.—p. 203.
Ceiling of Utilization of Nitrogen: Effect of Continuous Venoclysis with Amino Acids of Hydrolyzed Protein During Experimental Hypoalbuminemia. R. Elman, R. Charnas and H. W. Davey.—p. 216.

Hyperinsulinism and Hypoglycemia.—Holman, Wood and Stockton reviewed the literature of extrapancreatic islet adenomas and found 4 cases with symptoms of hyperinsulinism and hypoglycemia which were entirely controlled by removal of the extrapancreatic adenoma. To these 4 is added a fifth case in which the removal of one intrapancreatic adenoma failed to relieve the hypoglycemic symptoms but in which the removal of a second islet adenoma in the gastrosplenic ligament produced complete cure. The presence of multiple tumors is a relatively frequent occurrence in cases of hyperinsulinism. In any operation undertaken in a case in which symptoms of hyperinsulinism are present, this possibility must be borne in mind. The entire pancreas must be exposed and searched for possible multiple intrapancreatic tumors. Failure to find an intrapancreatic tumor should be followed by careful search for an islet tumor in those sites where heterotopic pancreatic tissue is more frequently found, especially duodenum, stomach, jejunum, Meckel's diverticulum and ileum. Three other unusual cases are reported: one was that of a heterotopic islet adenoma of the duodenum and adrenal cortex without any hypoglycemic symptom, another of an islet carcinoma apparently engrafted on a calcified islet adenoma which presumably had been responsible for hypoglycemia of varying severity over a period of sixteen years. The third case presented severe episodes of hypoglycemia, and careful exploration was undertaken for an islet adenoma but none was found. In the course of the operation the pancreas was isolated from all surrounding structures, although its arterial supply was not interrupted. No evidences of hypoglycemia have appeared after the operation. No explanation for this unexpected result is offered.

Hemorrhagic Hypotension and Its Treatment by Intra-Arterial and Intravenous Infusion of Blood.—In experimental hemorrhagic shock in dogs, Kohlstaedt and Page tested the therapeutic effects of the intra-arterial infusion of blood, as compared to the intravenous route. The rationale is that the intra-arterial infusion would elevate blood pressure rapidly, thus restoring tissue perfusion without delay. When all the blood removed was returned by the intra-arterial route under a pressure of 50 mm. of mercury the systemic arterial pressure rose rapidly and recovery occurred. The same amount of blood given intravenously usually caused recovery, but as the rise in blood pressure is slower some of the dogs died. Readministration of only 50 per cent of the blood by vein resulted in recovery in 30 per cent of the dogs, while the same amount given intra-arterially resulted in recovery of 75 per cent. Three patients in profound traumatic shock were treated by this method. The radial and the femoral artery were used. There was a rapid rise in the blood pressure in all instances. All the patients were treated surgically for their injuries. During the operations the blood pressure was maintained by intermittent intra-arterial infusion. After five or six hours of intra-arterial infusion the needle was removed and the artery ligated. One patient died of shock twenty-four hours later. The second patient died four days later from a cause not directly related to shock. The third patient recovered. For the cases in which the blood pressure is excessively low or when the amount of blood or plasma available is insufficient, the method deserves trial.

Bulletin of Johns Hopkins Hospital, Baltimore

73:65-142 (Aug.) 1943

Study of Thalamocortical Relations in Rabbit. J. E. Rose and C. N. Woolsey.—p. 65.
Fluorescein Test in Management of Tubed (Pedicle) Flaps. J. A. Dingwall 3d and J. W. Lord Jr.—p. 129.
Vitamin A Levels in Maternal and Fetal Blood Plasma. Jane Nicholls Byrn and N. J. Eastman.—p. 132.
Deformol: Simple Technic for Removing Formaldehyde from Preserved Tissue Specimens. C. F. Elvers.—p. 138.

Delaware State Medical Journal, Wilmington

15:139-164 (Aug.) 1943

*Rocky Mountain Spotted Fever: Summary of Recent Literature Dealing with Virulence and Therapeutic Value of Immune Rabbit Serum. E. Cameron.—p. 139.
Weil-Felix Reaction (Rocky Mountain Spotted Fever). R. D. Herdman.—p. 140.
High School X-Ray Survey. L. D. Phillips, A. M. Dietrich and G. T. Evans.—p. 142.
Delaware Escapes Smallpox Outbreak. E. F. Smith.—p. 143.
Has Gonorrhea Been Driven Underground? A. L. Chapman and A. R. Cameron.—p. 144.
Four Ps—Public, Pollution, Planning and Postwar Reconstruction. R. C. Beckett.—p. 147.
Seasonal Incidence of Births. C. A. Marshall.—p. 152.
Maternity and Infant Care for Wives and Infants of Enlisted Men in Armed Forces. M. Hotopp.—p. 153.
Role of Health Education in Public Health Program. Katherine B. Franklin.—p. 156.
Nursing Services Available Through State Board of Health. Alberta B. Wilson.—p. 158.
Physician's Role During Food Shortages. Eleanor M. Wilkinson. —p. 160.
Delaware's Wartime Dental Program. Margaret H. Jeffreys.—p. 162.

Rocky Mountain Spotted Fever.—It has been accepted that the western strain of the virus of Rocky Mountain spotted fever is more virulent than the eastern strain and hence accompanied by a higher mortality rate. Observations have been made, according to Cameron, which indicate that this view is not entirely correct. Comparative studies on large numbers of cases from western and eastern states revealed that there was no significant difference in the fatality rate in comparative age groups. There is a significant difference between the fatality rates in the age group 40 and over and those of younger age groups. Immune rabbit serum given early following infection in an adequate dose gave the best results in repeated experiments on monkeys and guinea pigs. In studying the human cases it was impossible to use an untreated group as a control. The fatality rates were compared in a series of 19 cases treated with immune rabbit serum after the third day of the rash and in a series of 52 cases treated on or before the third day of the rash. While the series are small, the inference is that immune serum is of value if used early in the infection. Up to the present there have been 13 cases reported in Delaware in 1943. There were three fatalities, in one of which immune rabbit serum had been given.

Gastroenterology, Baltimore

1:635-722 (July) 1943

Pancreas: Contributions of Clinical Interest Made in 1942. R. Elman and C. E. Lischer.—p. 635.
Intrahepatic Obstructive Jaundice. F. Steigmann and H. Popper. —p. 645.
Why Do a Liver Function Test? A. C. Ivy and J. A. Roth.—p. 655.
Diagnostic Roentgenology in Gastroenterology for Year 1941. F. J. Rigos and B. R. Kirklin.—p. 669.
Relationship Between Lymphogranuloma Venereum and Regional Enteritis: Etiologic Study of 4 Cases with Negative Results. Enid C. Rodaniche, J. B. Kirsner and W. L. Palmer.—p. 687.
Endoscopic Study of Appearance of Gastric Mucosa in Anesthetized Dog. J. A. Layne and J. B. Carey—p. 690.

1:723-820 (Aug.) 1943

*Duration of Gastric Cancer. W. L. Palmer.—p. 723.
Vitamin B Excretion in the Aged. H. A. Rafsky and B. Newman. —p. 737.
Studies of Urobilinogen: I. Daily Urobilinogen Excretion in Urine and Feces in Health and Disease: Evaluation of Watson's and Sparkman's Methods. F. Steigmann and Josephine M. Dyniewicz.—p. 743.
Studies in Pathogenesis of Experimental Dysentery Intoxication: Inhibition of Lesions. A. Penner and Alice Ida Berheim.—p. 765.
Fractional Blood Lipids in Dogs Subjected to Prolonged Feeding of Various Diets. D. A. Glomset and J. L. Bollman.—p. 776.
Relationship Between Total Osmotic Pressure of Gastric Juice and Its Acidity. N. Lifson, R. L. Varco and M. B. Visscher.—p. 784.

Duration of Gastric Cancer.—Palmer calls attention to the extremes of growth of the gastric cancer. He quotes cases to demonstrate that the rate of development, growth and extension of the gastric cancer varies within wide limits, some tumors being truly "acute" and others extremely "chronic." The factors determining or influencing these rates of growth remain to be ascertained. The clinical implications are numerous. The prognosis in certain gastric carcinomas is hopeless regardless of how "early" the diagnosis is made; in others the prognosis is good even though the diagnosis is late. The therapeutic implication is that, as a rule, all gastric carcinomas should be resected unless there exist proved distant metastases. It is possible that in certain cases the removal of the primary tumor may exert a favorable influence on the growth of the secondary lesions, but at the present there is little evidence to support this view.

Georgia Medical Association Journal, Atlanta

32:257-290 (Aug.) 1943

Geriatrics in Present Economic Situation. A. J. Mooney Sr.—p. 257.
Use of Blood Sedimentation Test in Clinical Medicine. C. P. Roberts. —p. 259.
Increasing Individual Opportunity and Responsibility of Doctors and Hospitals for Service in Relation to Accelerated War Program. E. H. Greene.—p. 262.

Hawaii Medical Journal, Honolulu

2:237-280 (May-June) 1943. **Partial Index**

Acid Fast Bacilli in Sputum. D. R. Chisholm.—p. 237.
Cigaret Smoking as Factor in Sterility.—p. 249.

Iowa State Medical Society Journal, Des Moines

33:409-454 (Sept.) 1943

*Local Use of Sulfonamides in Open Wounds. L. M. Overton.—p. 409.
Care of Premature Infant in General Practice. H. E. Farnsworth. —p. 412.
Treatment of Meningococcic Meningitis: Results in 10 Cases. C. H. Millikan and D. W. Chapman.—p. 418.
Glioma of Optic Nerve. F. H. Reuling.—p. 422.
Oral Lesions in Leukemias. L. M. FitzGerald.—p. 424.

Local Use of Sulfonamides in Open Wounds.—Overton implanted sulfonamides locally into 285 open wounds. He compares the results obtained in these cases with 215 open wounds treated earlier without implantation of sulfonamides. The following conclusions were made: 1. The local use of the sulfonamides has not improved the results in the treatment of open wounds when used as an adjunct to good surgery during the contaminated stage; however, it was found not to delay the

healing time. 2. All of the sulfonamides produced some local tissue irritation, as evidenced by the increase in serum and tendon adhesions. 3. The local use of the sulfonamides is not necessary in the early treatment of open wounds which can be thoroughly cleansed and debrided. These drugs may produce enough irritation to contraindicate their use in such cases. 4. The use of the sulfonamides may be of definite value when administered in badly disrupted wounds which cannot be thoroughly cleansed and debrided. When combined with the use of one of the drugs by mouth, sulfonamides are invaluable in this type of case. 5. Early treatment of any open wound is thorough cleansing and the removal of all contaminated and nonviable material followed by wound support and rest. Under no circumstances should the sulfonamides be substituted for this treatment.

Journal of Experimental Medicine, New York

78:91-150 (Aug.) 1943

Increased Resistance to Viral Infection as Result of Increased Fluid in Tissues. H. M. Taylor and D. H. Sprunt.—p. 91.
Adsorption of Influenza Virus on Cells of Respiratory Tract. G. K. Hirst.—p. 99.
Further Studies on Titration and Neutralization of Western Strain of Equine Encephalomyelitis Virus in Tissue Culture. C. H. Huang. —p. 111.
Typing Group A Hemolytic Streptococci by M Precipitin Reactions in Capillary Pipets. H. F. Swift, A. T. Wilson and Rebecca C. Lancefield.—p. 127.
Reactions in Skin and in Internal Organs of Rabbits Sensitized with Streptococcus or with Pneumococcus Vaccine and Their Relationship to Antibodies. P. F. DeGara and D. M. Angevine.—p. 135.

78:151-224 (Sept.) 1943

Elimination of Administered Zinc in Pancreatic Juice, Duodenal Juice and Bile of Dog as Measured by Its Radioactive Isotope (Zn^{65}). M. L. Montgomery, G. E. Sheline and I. L. Chaikoff.—p. 151.
Multiplication of Bacteriophage in Vivo and Its Protective Effect Against an Experimental Infection with Shigella Dysenteriae. R. J. Dubos, June Hookey Straus and Cynthia Pierce.—p. 161.
Radioactive Iron Absorption by Gastrointestinal Tract: Influence of Anemia, Anoxia and Antecedent Feeding. Distribution in Growing Dogs. P. F. Hahn, W. F. Bale, J. F. Ross, W. M. Balfour and G. H. Whipple.—p. 169.
Outbreak of Psittacosis in Pigeons, Involving Production of Inclusion Bodies and Transfer of Disease to Man. J. E. Smadel, M. J. Wall and A. Gregg.—p. 189.
Effects of Hypotension Due to Hemorrhage and of Blood Transfusion on Renal Function in Dogs. A. C. Corcoran and I. H. Page.—p. 205.

Journal of Infectious Diseases, Chicago

72:179-254 (May-June) 1943. **Partial Index**

Hypathermia in Experimental Infections. J. D. Hardy, Dorothy Rhoades Duerschner and C. Muschenheim.—p. 179.
Fermentation of Maltose by Salmonella Pullorum. W. R. Hinshaw, A. S. Browne and T. J. Taylor.—p. 197.
Antigenic Analysis of Isolated Tissues and Body Fluids of Roundworm Ascaris Lumbricoides Var. Suum. J. Oliver-González.—p. 202.
Protective Action of Normal Sheep Serum Against Infections of Trypanosoma Duttoni in Mice. W. H. Taliaferro and Yelena Pavlinova Olsen.—p. 213.
Streptococci Present in Feces of Patients with Nonspecific Ulcerative Colitis, and Effect of Oral Administration of Sulfonamide Compounds on Them. Enid C. Rodaniche, W. L. Palmer and J. B. Kirsner. —p. 222.
Adaptation of Yellow Fever Virus to Young Chickens by Serial Brain to Brain Passages. H. W. Larmeret Jr. and H. Mousaatché.—p. 228.
Studies on Endameba Histolytica: II. Observations Concerning Encystation, Maturation and Excystation of E. histolytica and on Longevity of Culture Induced Cysts in Various Fluids and at Different Temperatures. S. L. Chang.—p. 232.
Electrophoretic Studies on Antibodies to Trichinella Spiralis in Rabbit. G. G. Wright and J. Oliver González.—p. 242.
Effect of Actinomycin, Clavacin and Tyrothricin on Staphylococcic Toxin. J. E. Blair and Frances A. Hallman.—p. 246.

Journal of Lab. and Clinical Medicine, St. Louis

28:1295-1414 (Aug.) 1943

Nutrition in War. F. C. Bing.—p. 1295.
Principles of Percutaneous Absorption. S. Rothman.—p. 1305.
Simple Liver Preparation Orally Effective in Treatment of Human Amyloid Disease. J. Loukides, H. G. Grayzel and M. Jacobi.—p. 1321.
Prophylactic Use of Sulfanilamide in Children with Rheumatic Heart Disease. C. R. Messeloff and M. H. Robbins.—p. 1323.
Glycolytic Enzymes of Synovial Fluid. R. S. Hubbard and R. C. Porter.—p. 1328.
Studies of Pancreatic Function: II. Effect of Injury to Pancreas or Liver on Amylase and Lipidase Content of Blood. J. H. Roe and N. P. Goldstein.—p. 1334.
Intravenous Injections of Soluble Tin Compounds. J. Seifter and E. S. Rambousek.—p. 1344.

Michigan State Medical Society Journal, Lansing

42:577-664 (Aug.) 1943

Significance of Unresolved Organizing or Protracted Pneumonia. J. B. Amberson.—p. 599.
Postoperative Gastrointestinal Disturbances. C. B. Puestow.—p. 604.
Cancer of Rectum. F. W. Rankin.—p. 607.
Clinical Aspects of Arteriosclerosis. R. W. Scott.—p. 611.
Toxicology of War Gases. C. W. Muehlberger.—p. 617.
Paternal Blood Therapy for Moderate Vomiting of Pregnancy. R. M. Atchison.—p. 622.

42:665-768 (Sept.) 1943

Present Status of Medical Programs in War Industries. J. G. Townsend.—p. 694.
Industrial Hygiene in War Industries. J. J. Bloomfield.—p. 699.
*Absenteeism of Industrial Workers. A. T. Court.—p. 707.
Mental and Psychologic Problems Relative to Industrial Employment. F. F. Tallman.—p. 710.
Evaluation of Handicapped Worker for Employment in Industry. E. P. Chester.—p. 715.
Medicolegal Phases of Industrial Employment of Handicapped Workers. L. J. Carey.—p. 723.

Absenteeism of Industrial Workers.—Court presents charts on the basis of which he analyzes absenteeism among industrial workers. All of the increase in disability rates has been in respiratory diagnoses, the other major classifications having remained about stable. From 1939 through 1942, respiratory difficulties were both the most frequent and the only expanding major cause of disability. The almost universal use of supplementary vitamins and the wide availability of "cold shots" does not seem to have helped much. One of the charts shows for General Motors men the time lost in 1942 from short term sickness, serious sickness, nonoccupational accidents and occupational accidents. The relative unimportance of the last category is obvious. Recent public statements by poorly informed persons have exaggerated the importance of industrial accidents by 1,000 per cent or more. Another chart compares the stable rate of serious sickness among General Motors factory workers, with a sharp increase in short term absenteeism which has occurred among these workers. An analysis of this rapidly increasing short term absenteeism shows that the workers themselves give personal sickness as the reason for nonattendance in about two thirds of all cases, with sickness of other members of the family and other personal needs making up the remainder. When this short term personal absence (alleged to be mostly sickness) is analyzed day by day it is found that it is heavily concentrated on Saturdays and Mondays. These days average about twice the lost time rate that is shown on payday each week. Thus it appears that the type of absenteeism which is currently most disturbing—that is, short term absenteeism—is usually attributable to sickness which reaches epidemic proportions around the week end. Another striking fact about personal lost time is that absenteeism is concentrated among a few workers who compose a chronic fringe having more than their share of time off. One obvious characteristic is the relative youth of the group. A plant physician may be able in an important number of cases to help effect some reorientation of the individual's understanding of his job or his home problems which will enable him to cope better with those temptations which lead to excessive "week end sickness" and related types of absence.

Minnesota Medicine, St. Paul

26:585-672 (July) 1943

Postwar Medicine. F. W. Rankin.—p. 601.
Virus Diseases of Animals. W. L. Boyd.—p. 604.
Fundamental Aspects of Virus Diseases. R. G. Green.—p. 606.
Nutrition in Normal Adults. J. J. Boehrer.—p. 610.
Food Preparation and Preservation. Eva Donelson.—p. 616.
Early Treatment of Injuries to Face and Neck. G. B. New.—p. 619.
Pain as Symptom in Appendicitis. R. A. Glabe.—p. 622.

26:673-752 (Aug.) 1943

Compression Fractures of Spine. C. C. Bell.—p. 687.
Intertrochanteric Fractures. M. O. Henry.—p. 690.
Ununited Fractures. M. S. Henderson.—p. 692.
Fractures of Lower End of Radius and Ulna. C. C. Chatterton.—p. 697.
Pathologic Changes in Auricles in Auricular Fibrillation Associated with Hypertension. L. Stover and T. J. Dry.—p. 699.
Management of Industrial Injuries. H. W. Meyerding.—p. 705.
Deodorant for Colostomies. W. C. Carroll.—p. 709.
Trauma of Spleen. J. M. Culligan and D. J. Soltman.—p. 710.

New Orleans Medical and Surgical Journal

96:87-128 (Sept.) 1943

*Treatment of Carcinoma of Cervix at Charity Hospital: Preliminary Report of End Results. M. Garcia and L. J. Menville.—p. 87.
Functional Uterine Bleeding. R. J. Crossen.—p. 93.
Some Practical Aspects of Human Blood Plasma Preparation and Therapy. J. W. Davenport Jr.—p. 97.
Lumbar Hernia. R. Kapsinow.—p. 104.
Effect of Repeated Lumbar Punctures on Spinal Fluid in Normal Children. F. K. Bauer.—p. 106.
Albrecht von Haller. W. D. Futch.—p. 107.

Treatment of Carcinoma of Cervix at Charity Hospital.—Garcia and Menville report observations on 226 patients with carcinoma of the cervix who were treated at Charity Hospital of Louisiana between April 1938 and August 1939. A combination of x-ray and radium therapy was employed whenever possible. Treatment usually began with external x-ray therapy, given in accordance with the technic worked out by Arneson and Quimby. The dose amounted to from 1,600 to 2,000 roentgens in air through each of six pelvic ports in a period of twenty-four days with 200 kilovolts, 0.5 mm. of copper plus 1 mm. of aluminum filtration and 50 cm. distance. In addition, many of the patients had pervaginal x-ray therapy according to the method described by Cooper. The dosage through this route varied considerably but it seldom exceeded 5,000 roentgens. Radium therapy was administered approximately a month later by means of a modification of the technic of Regaud and Lacassagne. From 5,000 to 8,000 milligram hours was given in a period of four to eight days, about half in the cervical canal and half in the vaginal fornices. The absolute three year survival rate in primary cases is 37.7 per cent. Prognostic factors are evaluated and satisfactory agreement is shown between the results obtained and the figures reported from other clinics.

Ohio State Medical Journal, Columbus

39:705-800 (Aug.) 1943

Procurement and Assignment Service for Physicians, Dentists and Veterinarians: Responsibilities, Accomplishments and Future Problems. H. S. Diehl.—p. 721.
Abdominal versus Vaginal Hysterectomy. J. L. DeCourcy.—p. 729.
Office Proctology. P. W. Palmer.—p. 731.
Multiple Congenital Anomalies with Intestinal Obstruction. D. M. Glover and J. A. Garvin.—p. 734.
Pathologic Interpretation of Curettings. L. J. Bossert.—p. 736.
Importance of Immunization of the Civilian Population in Wartime. J. A. Toomey.—p. 739.
Tendon Suture. J. A. Soffel.—p. 745.
Atypical (Virus Type) Pneumonia with Cor Pulmonale. R. M. Woolford and J. H. Ogura.—p. 746.
Danger from Fluoroscopy. K. W. Stenstrom.—p. 748.
Current Thinking on Nutrition. J. Forman.—p. 749.
An Ohio Naval Surgeon At Sea. P. D. Jordan.—p. 753.

39:801-888 (Sept.) 1943

Coronary Thrombosis or Occlusion. J. J. Coons.—p. 817.
Experiment to Determine Conservation of Vitamin A in Eye Under Strain. F. H. Newton and A. H. Schade.—p. 827.
Adequacy of Photofluorographic Method of Chest Survey. M. W. Mason.—p. 830.
Latent Brain Abscess. H. M. Salzer.—p. 833.
Study of 27 Cases of Chronic Subdural Hematomas. W. J. Gardner and E. W. Shannon.—p. 835.
*Urine Alcohol Test and the Drunken Driver in Cincinnati. O. P. Behrer and C. A. Wilzbach.—p. 836.
Renal Complications Following Single Intravenous Injections of Sodium Sulfadiazine: Report of 2 Cases. N. Shapiro, H. S. Bloch and L. Schiff.—p. 838.
Abscess of Lung and of Brain as Complications of "Lysol" Poisoning. E. F. Koster.—p. 840.
Extrauterine Pregnancy Following Hysterectomy. B. F. Shreffler and R. F. Zeller.—p. 842.
Treatment of Gun Shot Wounds in Frontier Ohio. P. D. Jordan.—p. 844.

Urine Alcohol Test and the Drunken Driver.—According to Behrer and Wilzbach, alcohol is an important primary cause of traffic accidents. The alcohol concentration of the body is the best method for determining the causative factor for the nervous manifestations and incoordination present in the accused person. When the alcohol concentration of the urine is 0.07 per cent or less the subject is not greatly incapacitated; when the concentration in the urine ranges from 0.07 per cent to 0.2 per cent a considerable number of people may be under the influence of alcohol; all persons having urinary alcohol concentrations above 0.2 per cent may be assumed to have been under the influence of alcohol. During 1942 the Cincinnati Police Department submitted 224 urine samples which were examined for alcohol content, sugar, acetone and sedative type of drugs. Of this number 204 tests represented persons charged with driving while under the influence of alcohol; the other 20 specimens were taken from dead pedestrians and autocides for evidence of intoxication. A study of the 20 fatalities showed 13 definitely intoxicated; 3 showed evidence of drinking and the remaining 4 were free of alcohol. Of the 204 persons arrested for drunken driving 7 were found to have insufficient alcohol to sustain the charge and dismissals were requested by the prosecution. Eleven of the drivers had alcohol concentrations from 0.07 to 0.19 per cent, 132 from 0.20 to 0.29 per cent, 42 from 0.30 to 0.39 per cent, 4 from 0.40 per cent upward. The authors cite facts which show that urine-alcohol tests do not penalize the moderate social drinker but do expose and aid in convicting the drunken driver who has consumed a large amount of alcohol.

Public Health Reports, Washington, D. C.

58:1201-1232 (Aug. 6) 1943

*Experimental Transmission of Spotted Fevers of United States, Colombia and Brazil by Argasid Tick Ornithodoros Parkeri. G. E. Davis.—p. 1201.
Note on Rickettsioses in India. N. H. Topping, R. Heilig and V. R. Naidu.—p. 1208.
Approach to Mental Hygiene Public Health Problem. G. B. Haugen.—p. 1211.

Transmission of Spotted Fevers by Argasid Tick Ornithodoros Parkeri.—Davis shows that the argasid tick Ornithodoros parkeri transmits the infectious agents of spotted fevers of the United States, Colombia and Brazil with equal facility. Transmission was effected by larvae, throughout the nymphal stages, and by the male and female. Females that fail in transmission may give rise to infective progeny. Transmission through the egg was observed in spotted fever of the United States to the F 4 generation, in the spotted fever of Colombia to the F 2 generation, and in the spotted fever of Brazil to the F 1 generation. The invasiveness of the infecting agent was not lessened by continuous tick passage. Ticks that had fasted for one year produced typical infection, and progeny of these fasting ticks produced infections resulting in the death of the host. The data submitted suggest that this tick may be a factor in the maintenance of spotted fever in nature and, occasionally at least, a vector to man.

Radiology, Syracuse, N. Y.

41:107-212 (Aug.) 1943

Pathology of Brain Tumors and Its Relationship to Roentgenologic Diagnosis. E. Boldrey.—p. 107.
Reliability of Brain Tumor Localization by Roentgen Methods. V. C. Johnson and F. J. Hodges.—p. 117.
Application of Some New Technics to Study of Brain Tumors. E. R. Witwer, A. J. Derbyshire and K. E. Corrigan.—p. 130.
Physical Examination at Induction: Standards with Respect to Tuberculosis and Their Application as Illustrated by Review of 53,400 X-Ray Films of Men in Army of United States. E. R. Long and W. H. Stearns.—p. 144.
Coexistence of Chronic Lymphogranuloma and Cancer. L. Guzman.—p. 151.
Venography with Fluoroscopy in Venous Lesions of Lower Limb. A. Lesser and L. Raider.—p. 157.
Selection of Physical Factors for Maximum Output in Roentgen Therapy. W. W. Saunders.—p. 164.
Roentgen Examination of Pancreatic Tumors. J. Borak.—p. 170.

Southern Medical Journal, Birmingham, Ala.

36:603-664 (Sept.) 1943

Nutritional Deficiency as Etiologic Factor in Icterus Accompanying Pneumonia in Negro. E. L. Turner, M. J. Bent, G. D. Holloway, J. R. Cuff and W. S. Quinland.—p. 603.
Treatment of Fractures of Both Bones of Leg by Conservative Methods. H. P. Mauck.—p. 609.
Moniliasis of External Ear Canal. W. L. Dobes.—p. 614.
Sterility in Female. W. D. Suggs.—p. 616.
Sperm Fluctuations in Health and Disease. R. L. Brown.—p. 619.
Variation and Interpretation of Glucose Tolerance Test. H. J. John.—p. 624.
Malarial Immunity. W. N. Bispham.—p. 636.
Use and Abuse of Physical Therapy in Dermatology. H. M. Robinson.—p. 640.
Tuberculous Peritonitis. D. W. Barrow.—p. 646.
Relief of Pain Following Anorectal Surgery. T. E. Smith.—p. 650.
Keratitis Due to Mumps. O. Lippmann.—p. 654.
Birth Injury. T. D. Young.—p. 656.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

27:335-382 (Aug.) 1943

Case of Monocular Hydrophthalmia, with Special Reference to Its Possible Relation to Sturge-Weber Syndrome. A. Garrow and A. Loewenstein.—p. 335.
Iontotherapy (Ionic Medication, Iontophoresis, Ionization) as Aid in Ophthalmic Therapeutics. N. Fleming.—p. 354.
Injury to Opticochiasmal Junction: Case Report. E. B. C. Hughes.—p. 367.
Angioma of Retina. A. G. Cross.—p. 372.

British Medical Journal, London

2:191-222 (Aug. 14) 1943

Experiences in Military Dermatology. R. M. B. MacKenna.—p. 191.
Pepsin Inactivation in Ulcer Therapy. A. M. Gill and C. A. Keele.—p. 194.
Precision Method of Cephalometry and Pelvimetry. P. Cave.—p. 196.
Intramuscular Injection of Mepacrine (Atabrine): Histologic Effect. F. Hawking.—p. 198.
Postvaccinial Encephalomyelitis. S. Dunn.—p. 199.

2:223-256 (Aug. 21) 1943

War Surgery in Middle East. R. K. Debenham.—p. 223.
Acute Lymphocytic Meningitis in "Epidemic Catarrhal Jaundice." J. Waring.—p. 228.
Pseudoscleroderma. R. B. McMillan.—p. 229.
Pneumonia Treated with Sulfamethazine: Report of 77 Cases. B. A. Peters and M. L. Easby.—p. 230.
Effect of Injections of H 11 on Growth of Mouse Tumors. D. L. Woodhouse.—p. 231.
Composite Ziehl-Gram Staining Method for Sputum, Pus and Exudates. S. Marshall.—p. 232.

Edinburgh Medical Journal

50:385-448 (July) 1943

Experiments in Study of Immersion Foot. W. Blackwood and H. Russell.—p. 385.
Control of Sepsis. J. M. Robson.—p. 399.
*Etiology of Rheumatism. W. M. Levinthal.—p. 413.
Studies in Refractory Anemia: III. Refractory Anemias with Cellular Marrow. L. S. P. Davidson, L. J. Davis and J. Innes.—p. 431.

Etiology of Rheumatism.—Levinthal maintains that acute and chronic rheumatism is an anaphylactic disease with multiple lesions in the mesodermal system produced by continual antigen-antibody reactions in or on tissue cells. The antigen in most cases—gout is probably a conspicuous exception—consists of dissolved bacterial substances derived from the sites of subacute or chronic infection. The corresponding antibody is distributed in the faulty way characteristic of sensitization with a prevalence in the cells and a deficiency in the blood stream. This deficiency permits the antigen or a portion of it to pass unchecked the antibody obstacle in the circulation and to reach the antibody storing tissues. The anaphylactic distribution of the antibody is due to its quantitatively insufficient output in a person with constitutional or temporary debility of the reticuloendothelial system; such a person represents an intermediate type between the sufficiently good responder to immunizing stimuli and the complete nonresponder. This debility of the antibody-producing system is the basic cause of rheumatism. All agents detrimental to health and the functional integrity of the body, such as disease, malnutrition, exposure, and physical and mental exertion, act as indirect and precipitating factors, interfering with the antibody production.

Journal of Neurology and Psychiatry, London

6:1-82 (Jan.-April) 1943

Neurotic Constitution: Statistical Study of Two Thousand Neurotic Soldiers. E. Slater.—p. 1.
Psychosomatic Syndrome of Spurious Pregnancy After Menopause. Betty Jacobs.—p. 17.
Suggestibility and Hysteria. H. J. Eysenck.—p. 22.
Case of Atypical Lindau's Disease. W. R. Brain, J. G. Greenfield and D. W. C. Northfield.—p. 32.
Spontaneous Ventricular Rupture in Hydrocephalus with Subtentorial Cyst Formation. J. Pennybacker and Dorothy S. Russell.—p. 38.
Erosion of Ala Nasi Following Trigeminal Denervation. J. Schorstein.—p. 46.
Ventricular Changes After Closed Head Injury. H. Davies and M. A. Falconer.—p. 52.

Deutsche medizinische Wochenschrift, Leipzig

68:1-28 (Jan. 2) 1942. **Partial Index**

*So-Called Catarrhal Icterus and Epidemic Hepatitis. S. Dietrich.—p. 5.
Dependence of Reactivity of Organism on Type of Food: Clinical Significance. R. Abderhalden.—p. 10.
Damage of Joints Caused by Pneumatic Tools. P. Rostock.—p. 14.
Pneumonoconiosis Caused by Iron Dust. K. Humperdinck.—p. 16.
Treatment of Tetanus. W. Batschwaroff.—p. 17.

Catarrhal Icterus and Epidemic Hepatitis.—Dietrich believes that the disorders designated as catarrhal icterus and epidemic hepatitis are probably identical. Catarrhal icterus is an infectious disease which is probably caused by a virus. The infection takes place from person to person probably by droplet or contact infection. Children are most readily attacked. The disease confers a prolonged immunity. Although its course is usually benign, it may lead to hepatic cirrhosis or acute atrophy. In almost every war in the last hundred and fifty years increased numbers of cases of jaundice have been observed among soldiers. The French have termed the disease "jaunisse de camps." During the napoleonic wars large numbers of cases of jaundice were observed. It was also observed during the American Civil War, the Franco-Prussian War of 1870, the Boer War and the first world war. It was therefore to be expected that during the present war there would again be large numbers of cases of jaundice among the soldiers, and this has been the case. As in former wars, it has been noted that jaundice occurs chiefly during the fall and early winter months. Since the disease is infectious the patients should be isolated, although it is possible that transmission takes place in the preicteric stage. The treatment is symptomatic. In view of the fact that the disease is infectious and produces immunity, treatment with convalescent serum might be worth a trial. The "soldier's disease" is identical with epidemic hepatitis.

Zentralblatt für Chirurgie, Leipzig

69:161-208 (Jan. 31) 1942

*Esophageal Diverticula and Diverticular Carcinoma. G. Graumann.—p. 166.
Scrotal Preternatural Anus. P. Ries.—p. 176.
Roentgenologically Demonstrated Papilloma of Renal Pelvis. R. E. Wegener.—p. 180.
*Is Use of Lenggenhager's Dry Serum Free From Danger? F. Frimberger.—p. 183.

Esophageal Diverticula and Diverticular Carcinoma.—Graumann states that pulsion as well as traction diverticula are acquired and that developmental disturbances play no decisive part even in the development of pulsion diverticula. Developmental disturbances are probably not the decisive factor in cancerous degeneration of diverticula. Inflammatory processes occurring in every diverticulum may lead to atypical epithelial proliferations and thus create a basis for malignant growth. The author presents the history of a man in whom cancerous degeneration took place in a pulsion diverticulum of the esophagus.

Danger in Use of Lenggenhager's Dry Serum.—Lenggenhager's serum is prepared from fresh cattle serum to which dextrose is added. It is dried by air, it can be stored indefinitely and it dissolves easily and without residue. It can be sterilized, because even prolonged boiling does not cause precipitation. After it is dissolved and boiled for ten minutes it is said to be suitable for intravenous administration to human subjects, quantities of from 300 to 650 cc. being tolerated without reactions even after repeated injections. The boiling is supposed to destroy completely the foreign blood characteristics, so that no sensitization results. Frimberger points out that, although the cooking process may destroy the specific characteristics of the serum, new ones of antigen character, so-called coctoantigens of coctoanaphylactogens, are certainly formed. He investigated the dried cattle serum for its antigenic characteristics on guinea pigs, rabbits and a dog. Repeated injections at intervals of two or more weeks caused severe and even fatal serum shock in all three species of animals. The serum of rabbits sensitized with dried cattle serum was found to contain antibodies against the boiled cattle serum. Antibodies against fresh cattle serum were absent. The development of coctoantigens during the boiling of the dried cattle serum is thus demonstrated. The author warns against the use of the dried cattle serum in human beings.

Book Notices

Roentgenographic Technique: A Manual for Physicians, Students and Technicians. By Darmon Artelle Rhinehart, A.M., M.D., F.A.C.R., Professor of Roentgenology and Applied Anatomy, School of Medicine, University of Arkansas, Little Rock. Third edition. Cloth. Price, $5.50. Pp. 471, with 201 illustrations. Philadelphia: Lea & Febiger, 1943.

In the preface to this useful manual on x-ray technic it is stressed that "the needs of x-ray technicians, medical students and physicians doing some roentgenographic work for themselves have been particularly kept in mind." Having thus clearly indicated the scope of the volume, the author proceeds to cover it quite adequately. In common with many textbooks of its kind, it appears to devote a little more space to physics than is necessary. The dark room layout illustrated on page 99 seems more cramped than it should be. In the sections dealing with x-ray examination of the extremities greater prominence should be given to the use of cardboard holders. The loss of fine detail and of adequate soft tissue rendition (inevitable when intensifying screens are used) can be partly avoided by the proper use of such film holders. Most of the illustrations in the text show the use of a cassette, and the accompanying roentgenographic reproductions show the high contrast inevitable with intensifying screens.

In connection with x-ray examination of the wrist, the author does not mention the value of posteroanterior or dorsoventral views made with the hand in slight ulnar deviation, in order to bring out detail in the scaphoid more clearly. For true lateral projections of the wrist merely rotating the hand is not sufficient; in this position only the radius and carpus are in lateral projection; the ulna is still in dorsoventral projection. For true lateral projections of the wrist it is usually necessary to turn the tube and use a horizontal beam.

In connection with x-ray examination of the hip, it would seem desirable to point out the advantages of lateral projection made with the leg flexed and abducted. Of course, this particular projection, in the presence of a fractured femoral neck, can be made with safety only when the fragments have been immobilized by internal fixation. The illustration used for showing a lateral view of the femoral neck is not clear and deserves remaking. Similarly, that showing the bladder, figure 191, appears to be fogged and should be remade.

In the section concerning examination of the gallbladder with tetraiodophenolphthalein, nausea is mentioned as a common complication. It might be worth pointing out in the next edition that this nausea can be completely eliminated by the simple expedient of having the patient hold his nose while drinking any of the popular preparations. There has recently been placed on the market a compressed tablet preparation which eliminates nausea almost if not entirely, irrespective of control of the olfactory apparatus.

The author mentions the use of fluoroscopy for preliminary determination of the presence or absence of opaque foreign bodies in the eye (page 439). We doubt if many roentgenologists would endorse this procedure. The dangers of fluoroscopy and, indeed, of radiography deserve a little more stressing than is given in the present text. The dangers of radiography with portable apparatus have been vividly illustrated in recent months by the tragic incidents at certain large industrial plants, where many amputations of hands proved necessary following the indiscreet use of portable x-ray apparatus at too close a distance.

Most of the illustrations are clear and well reproduced. The type and format are also satisfactory. The book can be recommended for use by those for whom it was written.

A Handbook of Medical Library Practice Including Annotated Bibliographical Guides to the Literature and History of the Medical and Allied Sciences. Based on a Preliminary Manuscript by M. Irene Jones. Compiled by a Committee of the Medical Library Association. Edited by Janet Doe. Cloth. Price, $5. Pp. 609, with illustrations. Chicago: American Library Association, 1943.

This volume was compiled by a committee of the Medical Library Association under the leadership of Janet Doe of the Library of the New York Academy of Medicine. An original manuscript prepared by M. Irene Jones was the basis for the complete work. Data are here made available that are not easily found in many other places. There is, for example, a list of medical libraries possessing a hundred thousand or more volumes in and out of America. There are chapters on periodical and book selection, ordering, cataloguing, subject headings, classification, pamphlets, pictures, maps and microfilms, a discussion of rare books and a guide to bibliographies, biographic collections and histories. The final chapter is a consideration of reference work by Eileen R. Cunningham. While the book will not have much of an appeal for the average physician, it is well nigh invaluable to any one concerned with libraries in the field of medicine. The statement relative to the *Quarterly Cumulative Index Medicus* deserves repetition for the attention of every physician:

> This index is the most important current international index to medicine and the allied sciences. No medical library can afford to be without it. Its importance to the medical profession is acknowledged throughout the world. It is, of course, particularly useful to English speaking readers, but there is no other medical index of equal excellence and value published in any other country. It is conveniently arranged and is easy to consult rapidly.

The Conquest of Epidemic Disease: A Chapter in the History of Ideas. By Charles-Edward Amory Winslow. Cloth. Price, $4.50. Pp. 411. Princeton, New Jersey: Princeton University Press, 1943.

The author is professor of public health in Yale University. His objective has been to write a history of the ideas on which have been based the efforts to control epidemic diseases. "How did the leaders of science really visualize a given problem in a given century, what was their solution and what were the reasons which dictated that solution?" The course of epidemiologic progress is described in detail.

A hurried summary can give only a general outline of the scope of the book. Following detailed reviews of supernatural medicine, demonic and divine, practices of which are not yet limited to the past or to remote places, account is given of the directing influence of observation and experience on medical thinking in Greece, in accord with the Greek concept of a universe of natural law. Hippocrates observed that each disease "has a nature of its own, and none arises without its natural cause," and in the case of epidemic diseases this cause is mainly disturbances of the body by atmospheric influences. Some five hundred years later Galen defined epidemic disease as one "which attacks all, or the greater number, arising from corruption of the air with the result that great numbers perish." Certain diseases, notably ophthalmia, skin diseases and phthisis, were early recognized as contagious. The fact that epidemics always spared some persons was explained on the score of individual predisposition. These three factors—atmospheric influences, predisposition and contagion—dominated epidemiology until the nineteenth century. Winslow observes that, while historians and poets suggested that epidemics were spread by contagion, miasmatic and constitutional factors received the main emphasis in medical writings. He points out that the Old Testament presented "the first clean-cut conception of contagion and built on this conception a definite and well conceived program of differential diagnosis, isolation, quarantine and disinfection." For three hundred years after 1348 plagues raged in Europe and it was the Black Death which at last taught the communicability of disease by contact beyond all doubt. The numerous tracts put out to explain the causes and treatment of plague appear to be the first example of popular instruction in public health on a large scale and in these tracts contagion was accepted. It was in the sixteenth century that Fracastorius "developed a remarkably complete and adequate theory of contagion, in which the only major deviation from the modern conception was the lack of recognition of the biological nature of the contagious element." In the seventeenth century Athanasius Kircher presented the first clear concept of "contagium animatum," and Leeuwenhoek, the first to do so, described and figured bacteria and protozoa. The stage was now fully set for a sound, complete theory of contagion, but the emphasis by Sydenham on the epidemic constitution of the atmosphere to the neglect of contagion in the spread of epidemics held back the progress of epidemiology for many years. The modern public health movement started in the first half of the nineteenth century with "the great sanitary awakening" led by Shadwick, Simon, Snow and Budd. The role of filth as the nurse of infectious disease, if not the mother, and the nature and modes of spread of the contagions of cholera and typhoid were demonstrated even before their bacterial etiology was known. Finally, led by Pasteur, the germ theory of communi-

cable disease was established. Discovery of the carrier and of the insect host, as well as the close analysis of modes of infection, explained the occurrence of infectious disease when not traceable directly to contact as commonly understood. The book closes on a note of triumph for the germ theory and of reminder of unsolved problems. "There is today a wholesome reaction against exclusive emphasis on the germs and a recognition of the importance—even in many germ diseases—of factors of constitutional resistance (diathesis) and of the influences of climate and season and nutrition upon vital resistance."

The book is based on deep, comprehensive study and able analysis of first hand information. As stated in the author's preface, "the story . . . has been told as far as possible in the actual words of the various participants and after a thorough analysis of their surviving works." There are also appropriate sketches of the participants. The long chapter on "The Enigma of Yellow Fever" might well have included a brief comment on its solution. The role of vaccination in the control of smallpox might also have been considered, even though the general subject of immunity is not included in the discussion. The book is a notable example of good historical writing and scholarship.

The Therapy of the Neuroses and Psychoses: A Socio-Psycho-Biologic Analysis and Resynthesis. By Samuel Bengy Kraines, M.D., Associate in Psychiatry, University of Illinois College of Medicine, Chicago. Second edition. Cloth. Price, $5.50. Pp. 567, with 6 illustrations. Philadelphia: Lea & Febiger, 1943.

This is a good book on psychiatric treatment. Both psychologic and medical therapeutic measures are discussed in some detail. In spite of the title there is a considerable portion on psychosomatic diseases, which are perhaps not really neuroses in a technical sense. The explanations which are given are up to date and carefully presented, and the style is good. All of the mental disorders which would interest any one doing therapy with mental cases are well covered. While some variations of medical treatment are not discussed, the presentation as a whole is quite detailed and adequate. There is nothing dramatically new, but this volume is one of the few books that contain such specific material on treatment of mental cases, a subject which is becoming more and more important today with the return of mentally and nervously disordered members of the armed forces. There is some discussion of the war acquired mental disorders and there is less discussion of the psychoanalytic method in this than in the previous edition; however, much of the discussion is predicated on psychoanalytic concepts, although not expressed in psychoanalytic terms. There are a number of case histories which are well presented and in most instances form quite conclusive evidence of the therapeutic methods which the author describes. The psychiatrist and the general practitioner who have to treat neuroses and psychoses and psychosomatic complaints should be able to get much valuable information.

Notes on Gas Gangrene: Prevention, Diagnosis, Treatment, with an Account of the Technique of Wound-Excision and a Scheme for the Bacteriological Investigation of War Wounds. By the War Wounds Committee of the Medical Research Council and the Committee of London Sector Pathologists. Medical Research Council War Memorandum No. 2. Second edition. Paper. Price, 6d. Pp. 28. London: His Majesty's Stationery Office, 1943.

This paper gives a thorough and complete discussion of all the medical, surgical and pathologic aspects of gas gangrene. It represents a balanced view of British experience in the subject, therapeutic as well as diagnostic. It is a sober, well balanced dissertation. In concise form and in simple language there are presented in order the clinical aspects of the disease, its prophylaxis and the laboratory methods of diagnosis. The bacteriologic portions are particularly good. Much ink has been spilled in the complexities of the etiologic anaerobes. That error is not made here. On the contrary, the laboratory procedures given have the double virtue of being short and accurate.

The Nature, Method & Purpose of Diagnosis. By Henry Cohen, M.D., F.R.C.P., F.F.R., Professor of Medicine, University of Liverpool. The Skinner Lecture. Paper. Price, 1s. Pp. 27. Cambridge: University Press, 1943.

This booklet contains Dr. Cohen's Otis Skinner Lecture delivered under the auspices of the Faculty of Radiologists at the Royal Society of Medicine. As the title implies, this is a philosophic discussion of the larger aspects of diagnosis.

Vertebrate Photoreceptors. By Samuel R. Detwiler, Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Cloth. Price, $4. Pp. 184, with 110 illustrations. New York: Macmillan Company, 1943.

Beginning with a short description of the eye as a whole in various vertebrates, the author goes on to a more detailed study of the vertebrate retina. With a careful digest of the literature is included a summary of his own studies, including measurement of the retina in twenty-seven different vertebrates with illustrations from his own photomicrographs. Various forms of the macular area are illustrated and adequate consideration is given to Polyak's work, which has necessitated a modification of our simple conception of the conduction pathways in the retina to a much more complex one. The minute histology of the rods and cones and their development are reviewed. The author estimates that there are about seven million cones in the human retina and from seventy-five to one hundred and seventy million rods. His review and personal studies have convinced him that the duplicity theory is valid; i. e., that the cones and rods form distinct systems mediating vision in high and low degrees of illumination respectively.

Consideration of the habits of various vertebrates is, generally speaking, in accord with what one would expect from this theory, cones predominating in the retinas of diurnal animals while in nocturnal forms rods are chiefly or exclusively present. Some apparent exceptions are the presence of abundant rods in the strictly diurnal chicken and of cones, though small ones, in the owl. Wall's conclusions that cones may change to rods during evolution, involving a change of habits in certain vertebrates, is discussed.

The latter part of the book, dealing with the functions of the retina in relation to its anatomic structure, is of especial interest. The author has critically analyzed the evidence for various theories and, on the whole, is inclined to emphasize the need for further experimental evidence as regards most of them. Although migration of pigment during light adaptation has been conclusively demonstrated in many forms by various observers, including the author, it is absent in other forms and has not been conclusively shown to occur in any of the mammals in spite of statements to the contrary, which persist in many textbooks. The same is true of contraction of the cones and elongation of the rods during light adaptation, which has not been proved to occur in mammals although it is definite in many lower forms.

In at least some forms showing these photomechanical responses, they disappear following section of the optic nerve and also, according to Arey, have a definite relation to eye movements. A peculiar phenomenon of diurnal rhythm in these reactions observed by Welch and Osborn has been confirmed by Arey and Mundt. The changes of extreme dark adaptation were found only in animals whose eyes were removed at night, regardless of how long the animals had been dark adapted. It is concluded that, while these photomechanical responses are of value for dark adaptation in those forms in which they occur, they cannot be regarded as explaining the phenomenon.

While we are accustomed to consider our own visual apparatus as at the top of the scale from a functional and evolutionary standpoint, there is evidence from comparative anatomy that this is by no means the case. In birds the cones are much more closely packed in the foveal area than in man, there being about one million cones per square millimeter in Buteo as compared with a hundred and sixty thousand in man. In the goldfinch the internal nuclear layer is five times as thick as the vitreous, whereas in man the internal is actually narrower than the external nuclear layer, another indication of much greater visual acuity in the bird. The occurrence of well developed foveas in many lower forms, such as the lizards and in forms in which complete decussation of the optic nerve fibers occurs, deprives of all validity Elliott Smith's assumption that the fovea is a criterion of place in the evolutionary scale.

The facts concerning biochemical changes in the retina during adaptation are reviewed and a final chapter is devoted to the effects of vitamin A deficiency. In addition to the well known functional findings as revealed by adaptation tests, the author describes certain degenerative changes, as shown by

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microscopic studies, which occur in the rods after prolonged vitamin A deficiency. These, as shown by the author's associate Johnson, may reach extreme degrees and, although recovery from such changes was shown to occur, it was slow, requiring ten to eighteen weeks in rats and was not complete at the end of this time.

A Text-Book of Pathology: An Introduction to Medicine. By William Boyd, M.D., LL.D., M.R.C.P., Professor of Pathology and Bacteriology in the University of Toronto, Toronto. Fourth edition. Cloth. Price, $10. Pp. 1,008, with 519 illustrations. Philadelphia: Lea & Febiger, 1943.

The first edition appeared in 1932. The publication of four editions in eleven years is an indication of its popularity as a textbook among medical students, for whom it was primarily written, and of the rapid changes that are taking place in pathology. The modern point of view in pathology, still not recognized by many physicians, considers disease from its physiologic aspect against the background of morbid anatomy and histology. The structural changes induced by disease are still the chief concern of the pathologist but with the added factor of the effects of these changes on the function of the diseased organ. This is definitely the point of view from which Boyd's book is written. This edition is characterized by the same clear style, the same readability and the same apt allusion and deft turn of phrase that have been such prominent features of previous editions. It is fifty-six pages shorter than the third edition and is illustrated with 490 "engravings" and 29 colored plates. Three hundred and forty-six pages are devoted to general pathology, 631 to special pathology and 37 to the index. "This revision may lay claim to be a thorough one, because, in addition to new material, much has been rewritten, much has been condensed through a tightening of the belt of speech, and a considerable amount has been deleted." The principal deletions are the chapter on body constants in disease, the sections on immunity and hypersensitiveness and on the principles of heredity and much bacteriologic detail in the chapter on bacterial infections. All these subjects are dealt with more adequately in textbooks in other fields and should have been learned by medical students in other courses that are prerequisite to the study of pathology.

In the preface, twenty-eight additions are listed. Among the more important of these are vitamin K in relation to thrombosis; histoplasmosis; liposarcoma; necrosis of the liver in burns; spread of tumors by the vertebral system of veins; virus pneumonia and radiation pneumonitis; cystic fibrosis of the pancreas; the renal juxtaglomerular apparatus; the relation of the kidney to hypertension; crush nephritis; Hunner's ulcer; blood phosphatase in carcinoma of the prostate; fibrosing adenomatosis of the breast; Boeck's sarcoid; the Rh factor in erythroblastosis fetalis, and lesions of the intervertebral disks. Seventeen sections "have been largely or in part rewritten," such as the etiology of tumors; cirrhosis of the liver; goiter; pathologic physiology of the spleen; etiologic agents in carcinoma of the breast; the etiology of atheroma, of cholecystitis and of diabetes; the pathogenesis of lobar pneumonia; endometriosis, and the etiology of poliomyelitis.

The qualities of this book justify its popularity among medical students. While definitely not written for either practicing physicians or pathologists, both these groups will find in it much that is interesting and valuable. On the whole, the opinions expressed, often quite dogmatically, by the author are sound and in harmony with the established facts of modern pathology.

Annual Review of Physiology. Volume V. Edited by James Murray Luck, Stanford University. Associate Editor, Victor E. Hall, Stanford University. Cloth. Price, $5. Pp. 613. Stanford University P. O.: Annual Reviews, Inc., 1943.

It is recognized in the preface to this volume that probably all reviews which will appear for the duration of the war will have to omit reference to important foreign scientific publications. Nevertheless the table of contents offers an impressive array of physiologic subjects reviewed by an equally competent group of authorities. The reviews of this series, including the one under consideration, are quite invaluable for research workers and medical libraries. They should be also of great assistance to scientifically minded workers everywhere who attempt to keep abreast of the rapid advance of science.

Clinical Roentgenology of the Cardiovascular System. By Hugo Roesler, M.D., F.A.C.P., Associate Professor of Roentgenology and Cardiologist, Department of Medicine, Temple University School of Medicine, Philadelphia. Second edition. Cloth. Price, $7.50. Pp. 480, with 337 illustrations. Springfield, Illinois & Baltimore: Charles C Thomas, 1943.

The author has considerably enlarged and revamped the text in this edition to bring the material up to date. The illustrations have been expanded and improve the presentation by including more graphic case reports. The author's experience in this field together with his background of teaching, research and clinical practice makes him well qualified to deal adequately with the subject. The book is useful for the beginner, but he will have to absorb it piecemeal. It is excellently suited for the cardiologist, since it integrates roentgenology with clinical states. It is well adapted for the roentgenologist, since it gives him a clinical and anatomic background of the conditions considered, making his point of view more complete and suitable as a consultant. It will be found useful as a reference book. It is therefore regrettable that at times the style makes it difficult to follow the author's thoughts, that certain words are used in an unusual sense, that more headings of subdivisions have not been introduced and that the illustrations have not been placed at the end of each section rather than interspersed in the text. Further it would have helped if the author had set off a section in the legend of every illustration devoted to comment in which he could integrate the points for which the case report was presented; this is done in only a few cases. This lack at times makes it difficult to find out what the figure is supposed to illustrate. The reproductions are excellent, and the illustrative material is arranged so that it can be used independently of the text. Only one error was noted in the illustrations, namely that the chest lead record of the second electrocardiogram in figure 281 is reversed. Considering the merits of this excellent book, these are relatively minor criticisms. The author is to be commended for his courage in omitting references in the text to particular communications in order to avoid the pitfall, found in many textbooks, of giving credit to particular authors rather than in pointing out the broad sweep of subject development. Polemics are avoided, and the deductions presented are those of the author himself. The bibliography is extensive and should meet the requirements for further study of any reader. It seems, therefore, that this book admirably fulfils a real need in clinical practice.

Pictorial Handbook of Fracture Treatment. [By] Edward L. Compere, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School, Chicago, and Ham W. Banks, M.D., Associate in Surgery, Northwestern University Medical School. Cloth. Price, $4.25. Pp. 351, with 171 illustrations. Chicago: Year Book Publishers, Inc., 1943.

This handbook was compiled particularly for the general practitioner and medical students. The authors have presented the simplest principles and methods which they have found satisfactory for the treatment of fractures. The excellent illustrations by Dr. Harold Laufman give a graphic presentation of the technic described in the text and make the subject matter more readily comprehensible. The authors follow the methods of treatment of fractures and dislocations described in the modern textbooks of Boehler, Campbell, Key, Conwell, Magnuson, Scudder, Speed and Watson-Jones. The subject matter is condensed and is written to substitute for the larger textbooks. The general considerations of treatment of fractures are limited to the essential facts. Then fractures are taken up according to the parts involved, and the authors' method of choice is described. In some of the difficult fractures the method, of necessity, involves technical difficulties which it would be hard to expect the student and general practitioner to carry out, such as the five pin treatment for the fracture of the neck of the femur, as well as the various technics of reconstruction when this fracture becomes ununited. Bone grafts are described with clearness, but this does not make them any simpler or safer to do in the hands of the inexperienced. On the whole the book is well written, and the illustrations add a great deal for the simplification and clarity of this large subject. The book is concise and a good condensation of the larger textbooks on fractures.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

ACUTE FEBRILE ILLNESS AND ADMINISTRATION OF SULFONAMIDES

To the Editor:—I have had several interesting cases at a camp in the Catskills during this past summer and hope that you can help me explain them. These were all of a similar nature. They were all characterized by an acute onset with headache and no other physical findings except temperature from 101 to 103 F. Two of the patients not treated with sulfadiazine developed signs in the chest, which were not of a classic pneumonia, and an increasing cough. One of these reached a temperature of 104 F. on the fifth day and responded rapidly to sulfadiazine. The other patients (4) were treated immediately at onset with sulfadiazine and were better by the next day. These patients were all children from 9 to 12 years of age. The total amount of sulfadiazine varied from 30 to 90 grains (3.25 to 6 Gm.). Headache started to disappear almost immediately on administration of sulfadiazine without any other drug. I have spoken to another physician in this locality who has had similar cases, but he states that he has had some rapid cures without sulfadiazine. I would appreciate any information you can give me.

M.D., New York.

ANSWER.—Although it may be that the epidemic disease referred to was an unusual one in which the sulfonamides were helpful, the few details given strongly suggest that it was one of the syndromes called "primary atypical pneumonia, etiology unknown" or virus pneumonia. It appears that in the epidemic form of this griplike or influenza-like syndrome the majority of cases are mild and without pneumonia, which casts doubt on the wisdom of using the word "pneumonia" to name it. Some more general name like the ones just mentioned would seem preferable. An example of a similar epidemic in a summer camp is described by Iverson (*Bull. Johns Hopkins Hosp.* 72:89 [Feb.] 1943), in which pneumonia occurred in certain cases. The sulfonamide compounds are not of value in infections of this sort. Although it may be too late now, it would have been of interest to determine the presence or absence of cold agglutinins in the blood of these patients (THE JOURNAL, June 5, 1943, p. 369).

It is doubtful that pneumonia developed in the 2 cases mentioned because sulfadiazine was not given, and equally doubtful that sulfadiazine alone caused the immediate rapid response noted.

NITRATES IN VEGETABLES NOT TOXIC FOR MAN

To the Editor:—There is an idea prevalent among the people around here that nitrate of soda used as a fertilizer to vegetable crops is injurious to human beings. People will get sick after eating certain vegetables and then say "I should have known better than to eat those cabbages or watermelons that have been grown with nitrate of soda." Since nitrogen is essential to plant growth I am unable to see why the application of nitrate of soda to hasten growth could be injurious to the human organism. Is there any evidence that the use of nitrate of soda as a commercial fertilizer to certain fruits and vegetables is in any way injurious to the person eating it?

J. Street Brewer, M.D., Roxboro, N. C.

ANSWER.—Nitrogen is one of the most important plant nutrients and is usually the limiting factor in the growth of practically all crops. The general opinion is that it may be possible under extremely unusual conditions for nitrate to accumulate in the vegetative portion of the plant. This has been recorded for tobacco which has had a surplus of nitrate of soda applied to it. The veterinarians state that there is one case on record of a toxic reaction of stock to a field which had an extremely heavy application of nitrate of soda. In general nitrate which is applied as fertilizer is rapidly converted to other forms of nitrogen if not immediately used by the plant. The plant serves as a reducing system and converts the assimilated nitrate to nitrite, to ammonia, to amino acids and to protein constituents. Tollingham in Plant Biochemistry, discussing nitrogenous compositions of tomato plants, states that "these data show almost complete disappearance of nitrate in passing from the roots to the tip of the stem but there is a serious reappearance of this fraction in the conducting system of the leaf. This may signify, of course, translocation toward the leaf more rapidly than will allow reduction by the stem mechanism, but it is apparent that the leaf lamina promptly disposes of nitrate." Nightingale (New Jersey Agricultural Experiment Station Bulletin 461, 1928) found 10 to 13 per cent of the total nitrogen present as nitrate in all parts of growing tomato plants except the leaf blade. Bridges and Mattice indicate that a watermelon contains 0.4 per cent of protein (probably N times 6.25) or 0.064 per cent nitrogen, if 15 per cent of this is nitrate nitrogen, equaling 0.0096 per cent N as nitrate or 0.042 per cent nitrate as NO_3. It would hence require 2,500 Gm. (over 5 pounds) of watermeloni to contain 1 Gm. of nitrate. If one ate this much one would be sick from something besides nitrate poisoning. Furthermore, Merck's Index gives the clinical dose from 0.2 to 1.3 Gm. of potassium nitrate. Toxic amounts are much greater. If nitrate poisoning does occur, one would expect it from market gardening centers where heavy fertilization is the rule. Record of such an occurrence has not been found.

There is no evidence to support the belief that the use of nitrate of soda in the growing of fruit and vegetables is in any way injurious to people who eat such produce.

REPEATED BLOOD DONATIONS AND IMMUNE ANTIBODIES

To the Editor:—Is there any scientific evidence to warrant the assumption that immune bodies, specific or general, might be reduced appreciably by repeated donations of blood so that the donor's resistance to infection would be materially affected?

R. V. Brehm, M.D., Champaign, Ill.

ANSWER.—There is no evidence that the periodic donation of blood as practiced by professional donors or persons donating their blood repeatedly to the Red Cross reduces appreciably the capacity of the body to form immune antibodies. If these small donations have any effect at all, it would more likely be a stimulating one. According to the present view antibodies are modified globulins, and to reduce the capacity of the body to produce antibodies rather drastic measures are necessary, sufficient to bring about a hypoproteinemia. This has been accomplished in experimental animals, for example, by feeding young rabbits a low protein diet and in adult rabbits by supplementing a low protein diet by plasmapheresis (Cannon, P. R.; Chase, W. E., and Wissler, R. W.: *J. Immunol.* 47:133 [Aug.] 1943).

INFRAORBITAL EDEMA AND EXOPHTHALMOS AFTER THYROIDECTOMY

To the Editor:—The exophthalmos associated with hyperthyroidism not infrequently is increased following removal of the goiter. + In a few patients the exophthalmos is complicated by infraorbital edema. What is the physiologic basis of that type of edema and what is the favored treatment? The cases cited average a metabolic rate of between plus 5 and plus 10.

Robert Hoffman, M.D., South Bend, Ind.

ANSWER.—The cause of infraorbital edema and increase in exophthalmos following subtotal thyroidectomy is not clearly understood.

The most logical explanation so far presented is that it appears to be related to disturbances in pituitary function. The most interesting aspect of the problem is that the exophthalmos often increases when the basal metabolism is within normal limits. However, there is too much tendency to create the impression that this phenomenon occurs more frequently than it does.

Some improvement seems to have followed the combined administration of strong solution of iodine and desiccated thyroid. This is probably the most satisfactory treatment at the present time.

Irradiation of the pituitary has been tried with questionable results.

It is rarely necessary to resort to any operative procedure such as removal of the roof of the orbit to allow the eyeball to sink back into the skull.

ADHERENT SCAR IN FRONT OF TRACHEA

To the Editor:—On page 68 in the Sept. 4, 1943 issue of The Journal under Queries and Minor Notes there is an item about an adherent scar in front of the trachea following a thyroidectomy. The question is asked about a deep funnel shaped scar which is adherent to the trachea. Might not this be due to the so-called prethyroid muscles being widely separated in this area and leaving nothing but scar tissue between the skin surface and the trachea? When the scar is excised it would seem desirable to pull the deep prethyroid muscles, the sternothyroid muscles, together in the midline with interrupted sutures and do the same for the superficial prethyroid muscle, the sternothyroid muscle, and thereby eliminate the depression in this area over the trachea. This is an important step in any thyroidectomy in my estimation, and certainly it is true in women because this preserves the contour of the neck rather than having a depression over the trachea when the muscles are not sutured together in the midline.

Leslie M. Bell, M.D., Winchester, Va.